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VOL. 17.

BOSTON, MASS., JUNE 15, 1906.

No. 12.

Facts for Operators of Incubators and Brooders*

Incubators and Incubation.

INCUBATION is a very broad subject. Only by collecting the various experiences of workers in the field could a basis be formed for the truth, because the science of artificial incubation is only about one per cent of facts, and the remainder is guess work. We are in the fairy stage of artificial incubation, and the facts associated with it are so obscure that one cannot expect to differentiate the essential from the unessential. The modern incubator is the result of a great deal of experimentation. Many very bright people have worked very earnestly on the subject, and I do not know of any department in which more people are engaged than there are in artificial incubation, because every one who has an incubator does more or less experimental work, and there are hundreds and thousands of them in use. The best incubator we have today is capable of great improvement, and most incubators we have in use will give good results if used intelligently. We have in the United States one hundred and thirty manufacturers of incubators who advertise, and there are numbers who are known only to the makers of thermometers. These manufacturers employ from three hundred and fifty men down, and they yearly output 240,000. No one knows exactly how many are manufactured. They turn out in the city of Buffalo 34,000 incubators, and in Clay Centre, Nebraska, about 30,000. An incubator is an essential thing for every farmer. The backbone of the artificial rearing is the utility end of it. I do not suppose one-tenth of one per cent of incubators used are used by fanciers, because they are such a small end of the industry. We do not realize the capabilities of the poultry industry, and do not give it the thought and attention we should. A great many people have devoted a great deal of time and attention to birds for symmetry, shape, and feather; but very little attention has been given to utility. Some fanciers, too, have a lot of culls, pen them up, and sell the eggs cheap, and call them utility birds, but they are nothing but culls. The utility birds should be bred more scientifically than fancy birds. They have to use trap nests and the pedigree system, and they should work for the two hundred egg hens, and I believe it is capable of accomplishment. Sufficient care has not been paid in the past to the development of fertility in the egg. A good vitality is capable of transmission the same as any other characteristic of the bird.

It does not make much difference how good the incubator is that you have if you have not a highly vitalized egg. You must have the blood for generations back for fertility, and this means a great deal of work for somebody, quite a good deal of close attention, and it means the use of trap nests, and the labor and trouble and detail of everything connected with it. If we do not use artificial methods of incubation the product would amount to almost nothing compared to the requirements of the present time.

*Under this general heading we combine extracts from two addresses by James L. Nix, of the Prairie State Incubator Co., at the Poultry Institute, at Guelph, Ont., last winter. Adapted from the First Annual Report of the Poultry Institute of the Province of Ontario, 1905.

The incubators that are manufactured in the far west for the western farmer are used only in the natural season, April and May. These incubators are very cheap, and sell for ten dollars, and have a narrow range of effectiveness. You cannot operate them in a temperature of under 65°, or over 85°.

On the modern poultry plant where they raise green ducks, soft roasters, and broilers they hatch for about ten months in the year; for instance, the Curtiss plant hatches for ten months in the year. Hallock's plant, Long Island, is devoted almost entirely to ducks, and they use 131 incubators with a net capacity of 288 eggs each. I met Mr. Hallock at the Madison Square show, and he told me that he frequently had batches of incubators hatching together, and they had an average of 240 ducks from 288 eggs. Successful duck men are

is applied to the eggs. We have three methods of heating the eggs: Heating by diffusion, heating by radiation, and heating by contact.

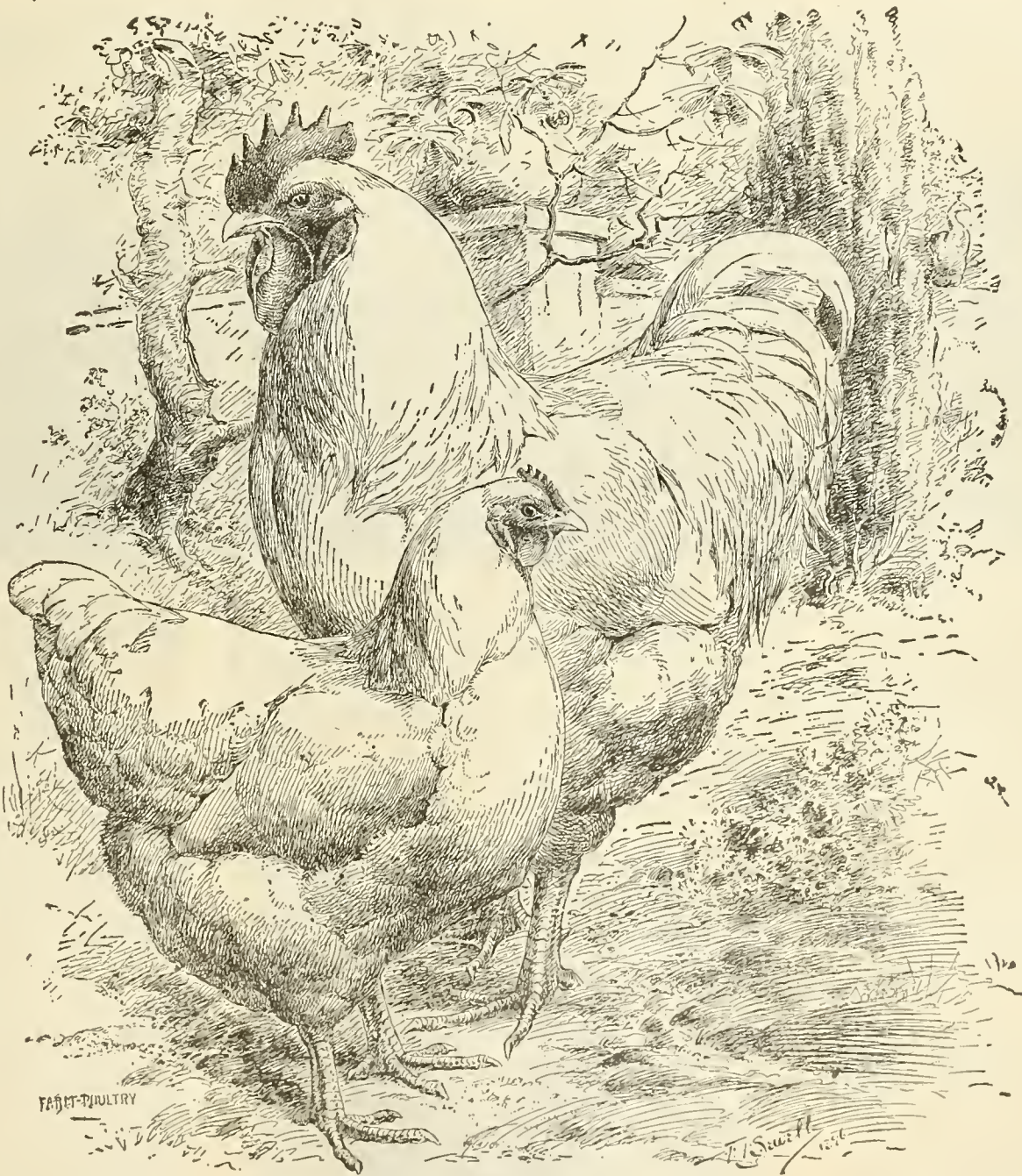
The hot water machine may be of any of these three methods, and the hot air machine may be of any of these three methods, and in the hot water or hot air machine the use of the radiation system gives exactly the same results, provided you have a perfectly constructed machine, one that does not leak. About half the incubators in use today are of the diffusion type. There are no machines on the market of the contact type.

The first incubator made in the United States of the contact type consisted of a hot water tank, the lower part of which contained a rubber diaphragm, and the eggs were placed on spiral springs in the tray, and the tray on a lever arrangement that brought it up in contact with the tank. It never proved a commercial success. The trouble is it was impossible to get the eggs out of the shell when the chicks cracked the shell and start to open it; the springs would push them up and crush them. A company built a contact heat incubator last year, and they had the same trouble, because the chicks get crushed in getting out. We are experimenting on that type of incubator, because I believe it is going to be the final type. There are a great many things about natural incubation that are essential, and we do not know what is essential and what is not. There are a great many things that a hen does that are not necessary. She does a great many things merely by accident, and without necessity. I know a hen heats the top of an egg, and all my experiments have shown that the germ does not develop properly unless there are two degrees or over difference between the top and bottom. The exact difference of temperature has not yet been determined. In the old Egyptian method and the Chinese method they do not seem to take that point into consideration. They use bottom heat, and as far as we are able to determine, they may be getting better results than we do, and they may not.

Heating Systems.

Last year we conducted a series of elaborate experiments to determine the best method of supplying heat to an incubator. No incubator that uses bottom heat has ever proved a commercial success. I find that the contact method raises the most germs, the radiant heat comes next, and heat by diffusion comes last. We had three and four machines of the same type in a row operating in the same room under the same conditions. They were operated by myself personally.

The manipulation was the same, and the temperature the same, and when the eggs were brought in I would take one egg from each dozen, and go down the row putting one egg in each tray, and then I would shuffle them around again so that I could get the same percentage of good and bad eggs in each tray, and the fact that it was so was borne out when it came to the first test, when I found that the diffusion incubator showed a certain percentage of fertile eggs, and the contact showed a certain percentage of fertile eggs, and the difference seldom exceeded five per cent. The difference between the two types of incubators ran as high as 54%, and as low as 5%. The radiant heat machines were within 5% of each other, and the



White Plymouth Rocks.

very secretive about their methods. I spent a month at Hallock's farm at one time, and I learned absolutely nothing. They claimed this information cost them a great deal of money, and no doubt it has, and they will not give it away. We did a little duck hatching last summer, and we have a flock of ducks, and we are going to engage the best duck incubator operator in the United States, and we are going to get his methods.

Classes of Incubators.

Incubators are divided into two classes — hot air, and hot water. That is not a true division, because you can only divide incubators in classes by the methods in which the heat

diffusion machines within 5% or 10% of each other; but, comparing one class with the other, the difference in development ran from 5% to 34% in the number of germs that would start. The percentage that would start varied with the fertility of the eggs, and I found the stronger the egg the less the difference, and the weaker the egg the greater the difference. We were trying to determine whether we would manufacture the radiant heat type or diffusion type. The diffusion is the cheapest, more economical in manufacture, and easier for the beginner to operate. Then it has not the same variation in temperature between one part and the other as the radiant heat type. There are a great many things in favor of the diffusion type of incubator. After working with this incubator we did not put it on the market, because we secured so much better results with other machines. I cannot claim I have discovered a law in artificial incubation, because that is the result of but one season. My results will be checked this year at this station, and I have tried to induce Prof. Gowell to try an experiment. The way we tried the contact heat was with the old hen. I discovered in the experiment with the radiant heat that the germ would start all right, but would die during incubation, and the result was there would not be over 6% or 10% difference between the diffusion type and the radiant heat type, but when the bottom was knocked out of the machine the difference in the results ran from 5% to 33% in favor of the one with the bottom knocked out. I attribute that to the value of diffusive ventilation. I believe in the fresh air theory of germ development. My individual experience has taught me that is the best; but a year from now I may find something else is better.

I would not think it would make any particular difference whether diffusive ventilation was from the side or the bottom. In natural incubation you get ventilation from the side. There is an incubator known as the Hacker that is ventilated from the side. In germ development you find direct current of air very injurious. If you could change the air in an incubator by diffusion, and have the air absolutely pure, you get a better germ. You will find a great deal in the poultry papers of the present time with regard to open front houses. It is used very extensively around Boston and Syracuse, and one of the leading men who use the open front house is Mr. Tolman. He does not even use a drop curtain. The front of his house is entirely open on one side, and perfectly air tight on the other sides, and you will be surprised to see how warm that house is. It is the same principle as blowing into a bottle—the air does not go in.

Ventilation.

In rearing little chicks last summer I got the best results by keeping them as near as possible out of doors; and what is true of old birds and young chicks I believe is true of the growing germ in an incubator, because it is only a chicken after all. And if you can get fresh air around the germ I believe you can get the condition which approaches nearer to the condition of the old hen; and when it comes to the time for the chicks to get out they will get out, and you will not find them sticking to the shell. Where the air is bad in the incubator you get a retarded development. The chick is oversize, and the shell full of water, and the operator thinks he has been giving too much moisture, and then he tries to put air currents through the machine, and the last condition is worse than the first. With the open bottom machine last season we never had over five eggs on an average left in a hundred egg machine; but with a tight machine we would have from fifteen to twenty left in the shell, and these tests were made with the same eggs, under the same conditions. Then I tried the open bottom with the diffusion type of machine, and I found it was of no value, and the results were not quite as good as with the tight bottom. One manufacturer used an open bottom machine some years ago, and it was not a success, and he abandoned it in favor of the slat bottom. The most careful experimenters will get opposite results, and it is one of the most difficult things to say when you are right. I do not say anything as a positive fact, because subsequent experiments may modify it, and the results you obtain at one time may be caused by something that you are not aware of. Artificial incubation is an obscure thing. We are dealing with life, and we have not any method of determining life. Neither our chemical processes nor science enable us to know in the slightest degree what it is. We can only see manifestations, and we see certain things will affect it, and that is about all we know about it.

You can only determine the facts of incubation by comparative experiments. One of the most difficult things in incubation construction is distributing the heat, getting a uniform temperature throughout the machine—and you will get colder air in the corners than you will in the center.

The First Incubator.

The first incubator ever constructed was on exhibition in London in 1829. It was a hot water incubator, and to get a uniform heat they had an agitator in the center tank that ran by power, and you would get a perfectly uniform distribution of the heat by the agitator method. But still you find that the center tray would be much warmer than the corner, and that was overcome by packing the tray. But one difficulty about that was if you got it right for a cold room then it is wrong for a warm one. The agitator is impossible in small incubators. Then they made ten inches deep, and the water in the upper part of the tank, and they depended upon this great depth of water to get an even temperature. But there was a great difficulty in that; when they got warm they would not



Baby Geese.

cool off again. One of these tanks would not cool off in a week, and the animal heat in an egg comes up very rapidly in the twelfth day, and if it happened to turn warm you could not get the eggs cool. Then the next thing was to use an exceedingly shallow tank, and they tried to get a uniform heat by what is known as the labyrinth circulation. The water came in at one corner and went round and round; and they were always having trouble with that system, because the hot water euters at a very high temperature and goes out cold.

The next development was called the gravity system, the one we use at the present time. It is not perfect by any means, but it is the best method of heat distribution I know of at the present time. The hot air pipe comes in at the center and front; this is made a vertical flue. It makes an upward draft, and passes over the top and down the side, and in the partition you get the same circulation as they had with the mechanical agitator.

Regulators.

We have at the present time only two types of regulators in use, the mechanical thermostat and the wafer regulator. The wafer regulator is the most extensively used on account of its simplicity and cheapness. The cost of a wafer regulator runs from 22 cents to 35 cents. The other type of regulator costs more. The great difficulty with the wafer regulator, however, is that it is influenced by any violent change of barometric pressure, and then the ether and alcohol with which the capsule is filled gets away in the course of time. Sometimes it will get away suddenly. The average life of a well made wafer is about four years; sometimes they will last seven, and sometimes they will only last a few days. A bulletin issued at Washington says the wafer regulator is the only kind in use.

There is one thing about the mechanical thermostat, and that is it is good for all time, and at no time in its life is it exposed to temperatures that will exceed the elasticity of the metals of which it is composed. We have some that we have used for twenty years, and they are always ready for work. A thermostat placed above eggs maintains a uniform temperature, but the eggs are also affected by the cold that comes from the bottom of the machine. The compensating type is much better, but if you put a thermostat in an incubator with this compensating feature you introduce trouble to a certain extent, because if you adjust the regulator with the thermometer at 103° with an empty machine you are apt to get a temperature of 107° and spoil your eggs before you get started. The ther-



mostat is properly adjusted when you put a piece of paper on the tray so as to cut off the heat from above on the lower bar, and then adjust your thermostat to temperature desired. And then another trouble with the compensating thermostat is that if the machine is not full it will not record properly, because at one time the eggs will be in one end of the machine, and when you turn the tray they will be at the other.

The Egg Tray.

I believe the best egg tray is a perfectly flat one without any slats or anything. We used a flop over tray a good many years ago. I think you lose 5 per cent with a flop over tray, and with a slat automatic tray you lose 10 per cent. With the slat tray or any kind of automatic tray, occasionally an egg will not turn, and they invariably leave a few eggs in the wrong position, and when they are left in that way the embryo gets a wrong presentation, turned in the shell, and when they hatch they try to get out at the little end, in which position it is a great deal more difficult for them to get out.

The Temperature.

The first thing in operating an incubator is to see that you have an even temperature. I believe incubator operators do not use thermometers enough. I never operate a machine with less than four thermometers, and I keep one at the front of the tray and one at the back. You should explore the egg chamber all over before you put your eggs in, and see if there are not any hot places in it; and when you find a hot place you want to get rid of it. If you have a hot back or hot front just tilt the machine a little bit and it will even it up. When you find the warmest place always keep the thermometer there, and then you are always sure of your temperature. You never injure your eggs until the thermometer rises over 106°. There is a great deal of discussion as to the proper heat for incubation.

Some manufacturers advocate a temperature of 107°. I have always used the contact method for a thermometer. Other people use the hang up method. There are three methods: the hang up, the contact with the egg, and then having the bulb in contact with two or three eggs. I believe the best plan is to place the thermometer between the eggs. In operating an incubator, if you only have one thermometer in the machine, do not adjust your regulator until you have put your thermometer on another egg, because the heat in eggs varies.

Turning the Eggs.

With regard to turning the eggs, I believe the best method, and one that gives the best results, is what is known as the shuffle method of turning. Shuffling the eggs, I am inclined to believe, with a little exercise in the growing germ, is beneficial to the hatch. The old hen rolls the eggs around in the nest considerably. You only have to lift a few eggs, and then take your fingers and mix the eggs and make a general mix up. It is not essential that you should turn the egg exactly half over or any particular amount; don't pay any attention to that. Turn them promiscuously, and if you mix them up sufficiently the eggs will be changed.

Cooling the Eggs.

Some incubator manufacturers do not cool, and do not recommend it. I think that is influenced a little bit by the temperature. If you run the incubator at a low temperature you should not cool very much, but if you run it at a high temperature cooling must be practiced. I believe better results are obtained by running at a high temperature and cooling considerably. My method of cooling is by the sense of touch and feeling. I do not believe in cooling five minutes or ten minutes or fifteen.

I believe the best method in cooling is the cooling table, and when you are cooling do not allow the tray to overhang the table, because if you do the cool air will come up through the eggs and cause a draft. It is not necessary to cool very much the first five days. I would simply turn the eggs, and at the end of the first week commence to cool. I put the palm of my hand on the eggs, and if they feel cool I put them back in the machine. By laying your hand on the egg you can tell if it feels warm or not. I think the incubator operator should go quite a good deal by his physical senses. Use your nose every time you go to the incubator; smell the air in the incubator, and you can tell the condition of the eggs by the sense of smell. The time required to cool will vary with the outside temperature. Keep the machine door closed when you are cooling, because when you leave the door open the machine cools down too fast, and then it will take too long to heat it up.

I do not advise opening the machine and letting the eggs cool off in the machine. I believe in the cooling table. A great many operators cool inside the machine, but they do most of their hatching in hot weather. Turn the tray before putting it back—end for end and side for side.

After shuffling the eggs all around you will find in the general mix up you will get a more uniform development, and it seldom happens that the eggs will be in the same position.

Hatching Duck Eggs.

In hatching duck eggs would start them at 101°, and let the temperature come up very slowly. Ten hours or more to 101°. If by 24 hours the temperature is not up to 101°, readjust the regulator. I would start the duck at a temperature of 101°, and run it that way for the first four or five days, and then let it gradually come up to 102°, and then 103°, until the time of exclusion comes, and then allow it to go up to 104° and 105°.

The Curtiss boys and the Long Island people start at 103°, and run at 103° straight through; at least they told me they did. There are three methods of applying water to a duck egg: One with the atomizer, and another is to take an ordinary brush about three or four inches, dip it in warm water, and shake it all you can, and then wipe the eggs all over with the brush. You do not turn the eggs. You practically cover three-quarters thoroughly with the brush, and when you strike the egg with the brush you can see a steam rise. Another method is to use a wet cloth; this is the Moss method. Originally they took cloths, dipped them in water, and then they were spread over the eggs, and the eggs were pushed back into the machine, and the cloth allowed to dry on the eggs, but they found they secured just as good results by leaving the cloth on 15 or 20 minutes, and then removing it. If you use the brush and you find drops of water on the eggs, take the palm of the hand and remove them. Drops of water drying on the eggs are injurious.

Artificial Brooders and Brooding.

THERE are two general systems of brooding known as the hot water pipe system and the lamp system. I will take up the hot water pipe system first; as a rule that is the only system employed in the large commercial plants, and for several reasons. One is it is economical, and another is its safety. Its only drawback is that you are unable to have an individual brooder with that plant; but I believe in the near future we are going to use the development of the individual brooder on the hot water system, and that is the ideal system for the large commercial plants. There is, of course, the open pipe system. The original system was the closed system. That was where they used from four to six pipes, and a hover built over these pipes. They used an inch and a quarter pipe. Where they were liable to have cold weather they sometimes used an inch and a half pipe. They are placed on the center and about four inches over the little chicks. These are placed about four inches from the floor, and in order to let the water circulate the rule is to have an upward circulation of five-tenths of an inch to the foot.

In constructing the brooder they simply throw over a patent barn door about eighteen inches wide, and on that they put a felt curtain, and they have the brooder, but it is not everybody who has succeeded with this brooder. It is necessary that you should have a regulator on the hot water heater, and there are two systems of regulation—expansion, and electric system. The cost of the electric regulator is from \$18 to \$35. They put in an electric thermostat, and that is connected with a clock work mechanism, and they can maintain the temperature a good deal closer than in any other way. A disadvantage is that the whole system is at the same temperature. Another criticism I bring against the electric regulator is that it opens the door or shuts it off completely. In the warm weather the doors are open, and the fire burns up briskly, and it takes a long time for the water to cool off, and by that time the fire is again out, and the result is a great loss.

At a farm in Waterford, N. Y., they tore down the electric system and put in the expansion system. It is so simple that you can install it complete in your brooder house for about twenty-five cents.

In selecting a hot water heater for your brooder house secure one that is lined with fire clay, because where you have the fire clay your coal will stay red while the fire is cooling off. The brooder stove is the simplest and cheapest you can use in a brooder house one hundred feet long; and if you go over that length, it is better to use a hot water heater. These brooder stoves are made to a capacity of three hundred square feet of radiation.

In this method of regulation you use what is known as an open tank. In your expansion tank you put a float, and the tank should be one-fortieth of the capacity of your water capacity of your heater, and the heater pipes one-fortieth of the entire system. In order to prevent evaporation, pour about a pint of oil on the top of the water.

The Open Pipe System.

The next development of the pipe brooder system was the open pipe system. They use from six to eight pipes with that system. They do not use any hover at all, because the most economical system is to use six inch and a quarter pipes, and they should have sufficient radiation to heat the brooder house in the coldest weather to eighty-five and ninety degrees.

The system is always put in with a gradual upward slant, ten inches to the foot. Water will circulate on the level, but it circulates better on an incline. At the far end you have to put an open stand pipe or air cock. I prefer the open stand pipe because you do not have to pay any attention to it. This system is the one that is used by the soft roaster growers near Boston. One advantage of this system is the ability with which you can handle large flocks. On the close system you are limited to fifty or a hundred in a compartment. I visited a farm where they used this system for twelve years. For the first four or five days they had pieces of white cloth which they laid across the top of the pipes to send the heat down to the little chicks, and after five or six days they removed this. The object of this system is to make the brooder so warm that the chickens will not crowd up, and they get unlimited quantities of fresh air. This system has the disadvantage that with a high temperature the change to outdoors is too great, and I do not think you will secure the same strength and vitality that you will with the other system.

Mr. Brown used this pipe system, and he took it out, and he has returned to the lamp brooder, the individual system. It has a great many advantages, because you have cold air in your brooder house, and you can keep the temperature in each individual hover to suit the number of chicks in that hover. The great drawback against this individual system is the labor and trouble of caring for the lamps. He has eliminated the bad air in the brooder by having all the air which supplies the

lamps and his hovers come in from outdoors, and not from the brooding room itself. All the air that enters his brooder is drawn from the outside.

The use of gas for brooders is entirely practicable, but poultry plants are generally in outlying places where they cannot get gas. I do not believe in having anything in the brooder against which the chicks can rub, such as a hot drum or a hot pipe. The great trouble in all lamp brooder construction has been the lamp. An infinite number of lamps have been made and tried with more or less success, especially in outdoor brooders; the lamp has to be constructed so that it will not blow out. In some the oil gets hot, and fire occurs. If you have a short chimney you will get smoke. The majority of outdoor brooders have the Zenith burners without the chimney. The Zenith burner was the first burner used when they discovered petroleum. The next development used was the use of the chimney. The Zenith burner won't blow out. It has the defect that no matter how you adjust it, the height of the flame changes. Every time you touch that lamp or put any oil in it the height of the flame changes. We manufactured brooders with these lamps for four or five years, and then abandoned it.

Temperature of the Brooder.

Heat the brooders from 85 to 105 degrees,* depending upon the make of the brooder and position of the thermometer in the hover. This temperature should be maintained the first week. The second week may be five degrees lower, then gradually reduced as the chicks grow older, depending, of course, upon the temperature outside.

It is all right to use a thermometer, but you must first determine the proper temperature from the appearance of the chicks themselves. Just watch them when they settle down for the night. If they are lying down all spread out like sheep on a hillside, happy and contented, with their heads keeping out from under the hover and resting on the floor, rest assured the heat is all right; but if they are huddled together in a pile, they are cold and need more heat. If they stand up with their mouths open, they are too hot. It is better to have a little too much heat than not enough, as the chicks will work

After the first week almost anything can be used. One of the best materials available is dry earth, especially in warm weather. It absorbs the droppings, and is a good disinfectant. Bedding should always cover the brooder floor at least an inch deep, and be short enough so that the chicks can scratch in it. Dry chick feeds should always be fed in the litter, and every inducement given the chicks to exercise.

In winter, on no account should the little chicks be allowed to run on a bare, cold floor. On the contrary, the floor should always be well littered.

Some chickens will pick each other's toes, and I have seen a chicken deliberately eat another up. They are like little children; they like to feel everything and get acquainted. I think the construction of a chick out of the incubator develops slower than they do under the hen. There is something about the mother caring for the chick that seems to develop the little chick a great deal faster than chicks in the brooder.

Drinking Fountains.

What kind of a water can do you use? I use the vacuum can. I believe the little chicks should have water from the time they are put in the brooder, but you should never allow water to get on the feathers. The abnormal thirst in little chicks is caused by improper heat or indigestion. I think it is perfectly right and proper to give them water from the start, and change the water at least twice a day. One of the most important things is to change it at night. The first thing a little chick does when it gets up in the morning is to go and get a drink, and if it gets a drink of this stagnant water it does not do it any good.

Feeding.

I never put any grit in the brooder until they know what it is. When the chick is hatched out the yolk is sufficient enough to keep it alive for ten days. The chicken will not die from starvation until it is ten days old. The reason I know that is that I have occasionally had a crossbill chicken, or one that had only one bill, and it was practically impossible for

them to eat or drink, and they lived to be ten days old. Take small fry fish. When they start out they have a little sack of nourishment under the chin which lasts them four or five days. I think nature intends this yolk to supply the chick with food until it gets into good working condition, and is able to follow the hen around. The mistake the amateur makes is giving the chick too much food at the start. Only feed them a little; whatever I feed they eat up. For fifty chickens I would give about a spoonful of grit.

I start to feed when the chickens are thirty hours old. Bread and milk are easily digested, and will not do them any harm. A great many people start chickens on boiled eggs; I think it is better to mix it with bread. If you do not have milk, I think eggs are all right.

You can start chickens off on milk, and you can use a great many breakfast foods. A great many people recommend lettuce, and some grow lettuce in boxes. Any one that is carrying on a market garden, and has a great deal of waste vegetables around the place can use it, and I believe cabbage is very good. When it comes to the second period you still have to continue this careful feeding. Do not let your sympathies run away with your good judgment.

I do not feed over three times a day. With the little chick I think it is advisable to feed five times; second period three times; and the third period you can hopper feed. I would be careful about hopper feeding until they are six weeks old. When they are put out in the range, hopper feeding is the first thing to do. The first two weeks is the critical period. If you have not milk you must use beef scraps, curd, or cottage cheese—the finest feed you can give your little chicks.

I think the colony system and individual brooders out of doors is the best process of raising chickens. If a person cannot raise chicks in the colony system and individual brooders there is no hope for him.

I look for the development of brooders to the pipe system on the individual plan. Where you want to raise a large quantity, the labor problem comes in in the colony system. At the Lodge place, in Massachusetts, they have a poultry building 75 feet long, and it is nothing but an open shed, 3 feet high behind, and 6 or 7 feet in front, and there are nothing but posts in front. They put four pipes in the back end, and an ordinary hot water heater, and that hover arrangement was continuous. They have a partition every five feet, and they had that right out in the open field, and carry in it fifty or sixty flocks. It is best to have fifty or sixty in the flock. I saw an open pipe brooder house in which they had a flock of four hundred, and fed them till they were four weeks old; and then they put them all into one room, twelve hundred of them together. For early spring they had canvas screens to drop down and make it a closed in shed.



Flock of Geese on a Rhode Island Farm

away from the heat if they have a chance. During the night the temperature usually falls, and then if there is a little surplus they are comfortable in the morning. While a regulator is not essential on a brooder, it is of great assistance during the first few days. The heat does not need to be watched so closely, and consequently the regulator is a time saver. It also provides the proper temperature in the early morning. When there is not enough heat under the hover the chicks pile up in a lump, and the weaker ones are trampled or forced to the outside and chilled. If the hover is not warm enough the chicks will not go under it, and will pile up in some convenient corner outside. When brooders are not of the two or three compartment style, the chicks should be confined within a foot or so of the hover the first few days until they become used to it, and the run gradually enlarged as they grow older.

It is a good plan to leave an older chick from the previous brood in the brooder with the new ones. It will act as a leader, and will show the little fellows the water, and how to scratch, and the way in and out of the brooder. The leader makes a very good substitute for the old hen. When the chicks are old enough, allow them to run out in the open air. It makes them strong and hardy.

Litter.

At the first we advise against the use of bedding materials that are indigestible, or that may be eaten, as a little chick is a very foolish bird, and when taken from the incubator and placed in the brooder, will attempt to eat anything it can swallow, and too often it succeeds, for many a flock has been killed by filling up on bran, sawdust, or sand. For this reason do not use bran, sawdust, coarse sand, or fine shavings. The first choice would be cut clover, next cut straw, barn litter or chaff, sweet and free from mold and decayed particles.

*Some hovers place thermometer well above the chicks, and consequently require a higher reading of thermometer.

Two Common Summer Ailments

DURING the warmer period of the year fowls are less liable to disease than in the winter months, largely owing to the fact that the climatic conditions are more favorable. Many complaints from which fowls suffer are engendered in the first place by the contraction of chills—sudden changes in temperature, or extreme cold generally being the exciting cause. There are two ailments, however, which, in my opinion, are more common during the summer months, and a little advice from one who has had much practical experience of both will probably prove of benefit to many readers.

Feather Picking.

It is possible that some may think it incorrect to class this as an ailment, and frequently the opinion is expressed that feather picking is solely due to a bad habit, but while occasionally this may be the case, there are usually other causes. Few complaints from which fowls suffer are more annoying or disgusting, and no efforts should be spared to eradicate this one as speedily as possible. No one variety is specially subject, but, as a rule, it mostly affects birds belonging to the laying or non-sitting class. In only a few instances have I known the heavy breeds to be involved, but usually if these commence they are more difficult to cure. Feather picking is more prevalent among birds that are closely confined; those having their liberty, with freedom to wander at will over arable land and pasture rarely contracting this complaint. Considerable difficulty is often experienced in determining the cause of this ailment, because birds of varying ages, kept under totally different conditions, and in locations quite dissimilar, are equally liable. As a rule, it mostly affects adults, and generally commences during the molting period, when every temptation is put in the birds' way. Chickens seldom acquire the habit, but once they do so greater difficulty is experienced in effecting a speedy and permanent cure. If a bird can be detected in the act, and it is merely a common one, kept solely for egg production, it is better to immediately kill it, because the habit is one that is easily and quickly acquired by the other fowls. If, on the other hand, the bird is of value, it is worth while taking time to cure it, but a good deal of patience and trouble may be required in so doing.

Idleness is one of the predominating causes of feather picking, and this explains why it is more prevalent among birds kept in confinement. Those at liberty are kept busily employed scratching about for worms, grubs, insects, etc., but those in runs have no such occupation, and thus frequently get into mischief. There are several methods of overcoming this idleness, and so removing the exciting cause. If there is a scratching shed available for the birds, the floor should be littered with straw or chaff, and the grain scattered thereamong. A good plan is to only feed half rations of soft food first thing in the morning, following this about 8.30 with some grain, which will keep the birds busily occupied until 10.30 or 11 o'clock. About midday green food should be supplied, and rather than throw it on the ground, as is usually done, it is a good plan to suspend it from the roof, just out of reach of the birds, so that each time they want any they have to jump up for it. If green food is scarce, a mangel, swede, or turnip hung up in a similar manner answers well. About 2.30 some more grain should be scattered, which will give further employment. When the fowls work for their food not only does it act as a prevention against feather picking, but it materially assists in maintaining them healthy and vigorous. In yards where the importance of cleanliness is not fully realized feather picking is frequently due to the presence of an insect at the root of the feathers, the birds continually picking at themselves in order to be rid of the irritation. To keep down vermin to the lowest limit, (and unless this is accomplished full success cannot be achieved in any branch of poultry keeping), the birds should be thoroughly dusted with a disinfectant powder, the process being repeated at the end of a week or ten days. Should there be any bare places, as sometimes happens, they should be bathed in warm water, and rubbed with vaseline or cold cream. An insufficient supply of animal food is frequently responsible for this complaint, and especially is this so when the culprits are young, as chickens require an abundance of this class of food to assist in their development, and to maintain them in good health. Birds allowed their freedom upon land rich in natural food are able to procure all that is necessary, but those in runs must be liberally supplied. A plan we have followed with considerable success is to bury some meat or a dead chicken a few inches below the surface of the ground, which speedily decays, and the maggots produced thereby are a source of food and employment for the affected birds. I have found that a liberal supply of green cut bone acts as a preventive; also lean meat, cooked, chopped up, and mixed with the food.

The remedies for feather picking have been suggested in stating the causes; firstly, by giving the birds more occupation; secondly, by exercising the utmost cleanliness; and thirdly, by generously supplying the birds with animal food. There are, however, one or two so-called cures which have from time to time been advocated, but in these I have little faith, the better plan being to remove the cause, thereby effectually overcoming the complaint. A remedy employed by a few poultry keepers is to pare both the inside edges of each mandible in such a manner that when a feather is taken hold of

it slips through the beak, and the bird becomes so disgusted that it very soon gives up the attempt. Another plan is to pass an ordinary hairpin through the nostrils in such a position that it cannot slip, twisting the ends so that they project, one backwards and the other forwards. Each time the bird tries to take a feather it gives the other bird a poke with the point of the hairpin, so causing it to jump away. I have never tried either of these methods, but have been assured they answer well. I prefer, however, to depend upon the removal of the cause.

Gapes.

Both in and upon all warm blooded animals and birds numerous animal and vegetable parasites are to be found, the former usually in greater quantities. The disease known as favus, affecting the comb and wattles of poultry, is due to a vegetable parasite, really a minute fungus, which attacks both human beings and animals, and which can be transmitted from one to the other. The most important disease caused by internal animal parasites is gapes, which mostly affects birds from one to six months of age, although older birds are liable to it. The symptoms of this complaint are exceedingly simple to detect; the bird is seen to stand extending its neck, frequently gaping or yawning, hence the name; it looks mopeish and listless, and the feathers lack their usual brilliant luster; in a bad case froth will be seen at the mouth. Gapes is due to the presence of worms in the throat of the bird, (syngamus trachealis) familiar to gamekeepers under the name of the red or forked worm. If the trachea and bronchia of a bird suffering from this complaint be examined, from six to a dozen small red worms, possibly more, will be discerned. These are usually fork shaped, the straight ones being comparatively rare. The former are the copulating males and females; the latter are considerably larger than the males, the two being firmly fixed together, so much so that they cannot be separated without tearing the tissues. So soon as the female attains maturity and becomes full of eggs, she, together with the male, is expectorated by the bird. For a little while they lie about on the ground, but ultimately burst when the eggs—not more than 1-250th of an inch in length—are scattered over the ground or in the water. Each worm contains an enormous number of eggs, which hatch in damp earth or water into embryos in from one to six weeks, according to the temperature. As soon as the eggs and embryos are swallowed by a bird they develop into adults, and are able to reproduce themselves in less than three weeks. While no second host is necessary, large numbers of the eggs and embryos are swallowed by earthworms, which in their turn are eaten by the fowls. It will at once be realized how very rapidly ground may become contaminated, even though the number of fowls suffering from this complaint is exceedingly small. In color

the gape worm is red, and in length the female may reach 4-5 of an inch, while the male is rarely more than 1-5 of an inch. A certain amount of variation takes place, however, in the size, some females being no more than $\frac{1}{4}$ of an inch. If the disease is not immediately attended to the worms increase with enormous rapidity, ultimately causing suffocation. The complaint is mostly confined to chickens and turkey poults, although older birds are sometimes attacked. A few years ago great mortality was occasioned in certain parts of the country through gapes, but thanks to the improved methods of poultry keeping and the greater attention paid to cleanliness, its ravages have not been so serious during the past few seasons.

Perhaps the point of most vital importance in trying to effect a speedy and permanent cure is to burn any birds that may die from this complaint. I have known cases in which a bird has died of gapes, and the body has merely been buried a foot or eighteen inches below the surface, with the result that the eggs have hatched, and the ground has become permeated with the eggs and embryos. Too much stress cannot be laid upon this point, and a bird that dies should be burnt without a moment's unnecessary delay. Another matter of importance is to isolate any bird that is detected in the act of gaping. The worms are frequently coughed up by an affected bird, causing the ailment to spread with alarming rapidity until the whole flock may be attacked. The worst outbreaks always occur on land that is overstocked, and as far as possible fresh ground should frequently be brought into play. It is unwise to use the same plot two consecutive years for rearing chickens, as in this case the risk of gapes and other diseases is so great. When fowls are confined in runs, it is a good plan to lightly dress the land with gas lime, or water it with a 1% solution of sulphuric acid.

One of the oldest remedies for gapes, but at the same time one that is exceedingly efficacious, is that of soaking the grain in urine before giving it to the birds. The ammonia escaping from the urine proves fatal to the worms and their embryos. A method which I have used with excellent results is that of dipping a long flight feather in turpentine or eucalyptus oil, and inserting it down the throat of the bird, turning it round once or twice, then gradually withdrawing it. If carefully done several worms will be brought up each time on the feather. Another method that has been tried with beneficial results is placing a little salicylate of soda in the drinking water, in the proportion of three drachms to every quart of water. The addition of soda to the drinking water very effectually kills the ova and embryos. There are some very good powders on the market, which consist largely of powdered chalk, and which are called by different names. The birds are placed in an air tight box, and a little powder blown therein, causing many of the worms to be dislodged. It is claimed that tobacco smoke has a similar effect, but I have never personally tried it.

E. T. BROWN.

University College, Reading, Eng.

Cheap Food For Chickens

WITH corn commanding a good price and wheat too expensive to feed poultry, it is no wonder many farmers complain that it costs too much to keep poultry. They forget, however, that chickens and other fowls need not be fed exclusively on expensive foods, for every farmer could provide a quantity of cheap, wholesome food at small cost if he were willing to take a little time and pains. In extremely cold weather corn must be fed at night, or the chickens will not be able to sustain life through the long nights—but that is only for a short time each season.

One year a farmer buried all the small and refuse heads of cabbage, the inferior turnips, the rusty apples and small potatoes for his chickens, and was surprised to see the way the hens devoured them in cold weather. The vegetables were boiled, and the water thickened with bran and fed to them warm. They did better than when kept exclusively on grain, and after that the surplus from the garden found "home consumption" on that farm. After the potatoes are dug you can see chickens industriously scratching out the ones left in the ground, and that should furnish a hint to all people with spare ground, while the way they fly over fences to ruin cabbage heads shows the necessity and craving for green food.

Instead of letting a bit of ground go to waste in the garden, sow to turnips, or plant out a lot of late cabbage for the chickens. They love carrots in the winter, and will neatly dig them out of the ground as soon as the weather thaws if the crop is not dug. A mixture of different vegetables boiled with a little corn meal to thicken is as good as dessert to the inhabitants of the hen house, and a welcome change from a whole grain diet. Sweet corn, pop corn, and vegetables caught by the frost will be eaten with relish in the chicken yard, and all that is necessary is to chop them in bits.

If you are called to town frequently try to make friends with a restaurant keeper or two, and buy the scraps from their tables. It is not worth while to make an extra trip for the stuff, but one wise farmer paid for the scraps in good vegetables and fruit and made money by the transaction. He was obliged to be in town several times a week delivering supplies, and it was a very small job to call for the bits of

bread, meat, and table scraps. A tightly covered lard can was used to carry them, and the chickens did very well on the mixed diet. The farmer would have had no use for the vegetables he gave in exchange for the scraps, as they were merely the surplus from his garden, and he was not in the vegetable business, but they purchased enough food for his chickens the year round with the addition of a very little grain.

Quite often grocers have spoiled goods like oatmeal or old crackers, to dispose of for a song, and it pays to invest. Of course it is unwise to purchase moldy food, no matter how cheap, but sometimes food products become unsalable by being infested with insects, and these are all right for fowls. By being on the lookout it is possible to pick up many cheap foods from dealers in addition to the vegetable diet.

Butchers' scraps are ideal if fresh and good, but sometimes the demand is so great they cost too much. It pays to use bone and meat occasionally from some source, and the hens are grateful for the rags and tags of meat from any source. Milk, sweet and sour, is relished, and when thickened with meal makes ideal food for young chicks. Don't save all the spare milk for the pigs. Give a part of it to the chickens, instead of feeding them one thing all the time.

A lady who had great success with her chickens always bought stale bread from a town baker at one and one-half cents a loaf. At first sight this seemed expensive, but the bread was carefully mixed with boiled potatoes, corn meal, green scraps, and sometimes sweet milk, but never made sloppy, and it was wonderful the way the young chicks put on flesh for market with this diet. She also bought refuse rice, cracked and dirty, to boil for the chicks, and it paid. Fowls like variety as well as human beings, and are grateful for a change from corn or wheat, however expensive the latter may be.

So plant a few extra tomato and cabbage plants for the chickens this year, and put the vacant space where the early vegetables grew in a turnips and late potatoes. If it happens that turnips and potatoes bring a good price, sell them in market by all means, but if not carefully save them all for the chickens. Next winter they will be glad for the warm food on cold mornings, and if you do not get a large supply of eggs to pay you for the extra work, you will still be certain you have discovered a plan to save money by feeding inexpensive foods.

HILDA RICHMOND.

Editorial Page of Farm-Poultry

To Keep the Pages of History Straight.

IN a report of the address by Prof. C. K. Graham, of Storrs, Conn., before the Brockton, Mass., Poultry Association, by Mr. A. F. Hunter in the *American Poultry Advocate*, we find the following statement:—

“The great state of Massachusetts does practically nothing to promote the poultry interest, there being but a beggarly three or four coops of chickens, perhaps seventy-five in number, at its State College. And Massachusetts is the best poultry market in the world; is the most liberal with cash to buy good dressed poultry and eggs, and is paying out some \$25,000,000 a year for eggs and poultry meat grown in other states.

“The humiliating indifference of the Massachusetts Agricultural College people to the interests of poultrymen was well shown in the fact of poultrymen in Woburn and Reading (near Boston) and Holyoke, New Boston and other places sending down to the Connecticut and Rhode Island Colleges for advice and assistance when there was trouble in the flocks. There is now good prospect that poultry will receive recognition at the Massachusetts Agricultural College, as a new president takes charge there in July, and it is his desire to especially promote the three lines of work which in his judgment are best fitted to pay a good profit to Massachusetts farmers—and those are horticulture, dairying, and poultry.”

This statement appears to be a mixture of report on Mr. Graham's address and observation by Mr. Hunter. We do not think either of them intended to say all that the statement conveys. Certainly it tells more than it should—more than is warranted. Like many another mixed statement, it—no doubt unintentionally—conveys wrong impressions.

To say that the state of Massachusetts does practically nothing to promote poultry interest is wrong. Granted that it has not done all that it might, and that its experimental poultry plant is on a small scale; through the State Board of Agriculture and the Agricultural College and Experiment Station at Amherst, the state has been doing some work—rather more we believe than most states.

As to the particular ease cited, of “humiliating indifference of the Massachusetts Agricultural College people to the interests of poultrymen,” we feel very sure that Mr. Graham having some personal acquaintance with the facts, would not represent the case that way, and that Mr. Hunter must have quite misunderstood the facts.

There was in particular one case of a poultryman located in Woburn, and a member of the Reading Suburban Poultry Club, whose flock was last year visited by an epidemic which carried off the greater part of his young chicks, and made it advisable to clean out and clear up and begin over again. The exact nature of the trouble has not yet been ascertained. Mr. Graham, of the Connecticut Station, was a member of the club, and so became interested in the case. Dr. Curtice, of the Rhode Island Station, coming at that season to address the club, also became interested. The case either had been or was about that time brought to the attention of Dr. Paige, of the Massachusetts Agricultural College, and also of Dr. Frothingham, of Harvard. Dr. Paige told the writer, and we think also told the poultryman interested, that as Dr. Frothingham was working on the case he would not make an independent investigation.

Of other specific cases which might furnish some sort of basis for the reference made above, we cannot speak as positively—as to facts. There are poultrymen in various places in Massachusetts who having been students with Dr. Curtice or from personal acquaintance with Prof. Graham, would be very likely to write to them in a difficulty. It also happens sometimes that mention of a name in public or in a paper prompts someone to write to the person mentioned. The writer has also repeatedly suggested to people in Massachusetts as well as elsewhere that they communicate with men at colleges outside of their own states, whenever he judged from what he knew of the situation that the views of any special authority would have special interest to his correspondent. In that way we have again and again been guilty of diverting attention from the work done at the Massachusetts Agricultural College.

But, on the other hand,—and for a number of years past—we have regularly been referring correspondents to Dr. Paige, of Amherst, in all cases where the trouble appeared to be serious and to require expert investigation, and we doubt very much whether any man in like position in any other state has given more careful, thorough personal attention to work of this kind than he has. We have yet to learn of a single instance requiring a veterinary's attention and not provided for to which the authorities of the Massachusetts State Agricultural College failed to respond. We know personally of many cases where their investigations brought about the desired results, and of others where they did all that could be done. We know also something of what Dr. Paige has been doing in his laboratory in investigations of poultry diseases, which have not as yet yielded definite results.

The circumstances being as they are, the statement we have quoted seems to us an unwarranted reflection on the Amherst institution in general and its veterinary department in particular. We have never been slow to criticize the deficiencies or errors we thought we found there, but there is a wide difference between what the state of Massachusetts is actually doing for poultrymen and indifference.



Objects to Being Called “Humorist.”

EDITOR Engel, of the *Poultry News*, resents our reference to him as a humorist. He says he objects “to the title of humorist.” The comments on the New York show on account of which we rated him the humorist of the day in poultry journalism he says were taken from his diary, were not written for publication, but had to be used as the only matter available. He refers to one subject of his criticisms as not having taken it as a joke at all. It was such possible experiences as we had in mind when we suggested that Mr. Engel's freedom of speech might be in a measure affected by the growth of his paper. There are many things that it is well to leave unsaid. Most of us either through carelessness or an error in judgment let one slip occasionally, but in the report of the New York show, Mr. Engel released more “thoughts” containing possibility of needless offense than we ever saw in as small a compass. They were very entertaining to those who could appreciate them—but they were not judicious.



Under Fire Again.

OUR old acquaintance who presides over the Department of Agriculture, at Washington, D. C., is again under fire. This time his trouble arises from the fact developed at hearings of a congressional committee that he had not complied with the law in regard to the construction of a building for his department. Congress appropriated a million and a half for a building, making that sum the limit of cost for a building to accommodate the entire administrative force of the department. The secretary used the appropriation for the construction, as far as it would go, of a building which would require another large appropriation to complete. As an incident of the packing house investigations the Department of Agriculture and its head become, and we think properly, subjects of severe criticism. There was a strong popular demand for the resignation of Secretary Wilson, following the revelations of graft in his department some months ago, and the resignation of some of his principal subordinates, and the demand now arises again. Whether it will be heeded remains to be seen. On the reasonable supposition that the department's handling of poultry topics was as good as

of any, it would be hard to conceive of a more useless expenditure of public funds than is represented by the work of this department. Besides being finally responsible for the printing and distribution by the government of quantities of poultry literature of little value, and for which there was apparently no demand, save the fact that the preparation of it furnished occupation for some one, Mr. Wilson has from time to time attracted public attention by utterances on poultry topics that appealed more to the journalist looking for mild sensations than to people who deal with actual conditions and plain facts.



Physical Examination for Laying Hens.

IN THE new edition of “The Trap Nest Text Book,” just off the press, Mr. Wellcome, in the chapter on “Detecting Laying and Non-Laying Hens by Observation and Physical Examination,” mentions the examination of the pelvic bones as in some degree useful for this purpose, and then appends to the chapter a report received just as his book was going to press of a test of a “system of selection” on a lot of hens whose individual performances were matters of trap nest record. The report reads:—“Under all the tests some of the heaviest layers were judged only fair; some of the medium layers were considered fine, and some that had not laid at all were judged as heavy layers. The estimate of the best birds failed to about 25 per cent. That of the non-layers failed to fully 50 per cent.”

Commenting on this report, Mr. Wellcome says:—“It is clear that the ‘system’ and the recorded facts did not agree. Whether the ‘discoverer’ who at this late day claims proprietorship in this ‘system’ rediscovered it independently, or got his cue from the first edition of this ‘Text Book,’ or a yet earlier issue of a Boston poultry journal (*FARM-POULTRY*), I do not know. It is ancient and unreliable. I have met a number of elderly people whose grandmothers had great faith in it.”

As the reader may suppose, that reference to *F.-P.* made us feel that we had a very direct and positive interest in the matter. The writer could not recall any reference to it in this paper, but after a little correspondence with Mr. Wellcome, who was very sure that there had been such reference not a great while before the issue of the first edition of his “Text Book,” the item was finally located on page 359, of the issue of Sept. 1, 1901. Here it is, with the comment we made on it at that time:—

“How to Tell a Laying Hen.”

“Editor *FARM-POULTRY*:—I read in an article in your paper on laying hens that breeders cannot be sure when they are laying. I have been able to tell for many years, and thought everybody knew what I knew. If you will try the experiment I think you will be surprised at the simple method.

“Feel the bones near the vent. In a hen that is laying they will be very wide apart, and in one that is not laying they will be very close, but will expand as she comes to the laying point. Springfield, Mass. THOS. GLENTON.”

“This is interesting if true, and there may be something in it, but it is a question whether many persons could use this method with satisfactory accuracy; also, whether it could be used except where one was handling the hens on which it was tried quite often, and thus in a position to note variations in their condition.

“If some other of our readers in or near Springfield could arrange for a practical test of Mr. Glenton's method, and of his skill in applying it, it ought to be as interesting to them as a report of it would be to others.”

At the New York show we found several little groups of poultrymen making merry at the expense of an “expert” in the use of one system for selecting layers, whom they had been testing in hens some of them knew something about. The “system” had not worked, or had not been worked right. One poultryman who had watched the “expert” closely said that while he went through various motions, seemingly intended to mislead, it was plain to him that the “system” consisted, principally, if not solely in ascertaining the degree of separation of the pelvic bones. This is one of the antique ideas that we pay little attention to. Pigeon men—some of them—profess to be able in this way to select the sexes. How far they are successful some of those who have bought the stock they selected in this way can best answer.

The idea of making use of this part of the anatomy of fowls to determine certain practical points is not new. It is novel only in so far as it has failed, though a matter of common knowledge, to come into general practice. The reason for this failure is obvious to every intelligent poultryman.



A Useful Reprint.

THOUGH by no means averse to the use of the shears in editing, we do not often use reprints in any issue to the extent made necessary in this to give our readers in one paper and substantially complete the two valuable addresses given by Mr. J. L. Nix, at the institute in Ontario last winter. We think readers interested in the subject will appreciate the convenience of having these two effective treatments of artificial methods together.



A Welcome Guest.

WE are in receipt of a letter from Mr. Edward Brown, of England, advising us of his sailing from Liverpool for New York, on June 2d, and of his purpose to be in Boston about the 18th of this month. The date has special interest, because it is thus practically assured that Mr. Brown will be at the June meeting of the Boston Suburban Poultry Club, on Tuesday evening, June 19. This will give poultrymen in this vicinity an exceptional opportunity to meet one of the most thoroughly practical and best informed authorities on poultry culture. Altogether this June meeting promises to be a red letter meeting.

Apart from this occasion depending upon the coincidence of his coming to Boston at the time of the meeting, Mr. Brown will find much to interest him here, and we know of no one for whose impressions of American poultry culture we would look forward with so much interest.



Combination Poultry Farms.

WE know of a few comfortably successful farms where poultry is combined with other lines. Some of these we propose to describe quite fully in early issues of this paper. Meantime the editor suggests that any readers who know personally of such places let us know of them, where they are located, what lines they are engaged in, and the owner's name. It may be that some we have never heard of would interest our readers more than those we know. Anyway, we want to get in touch with as many as possible of the people engaged in poultry combinations.



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LESSONS IN POULTRY KEEPING

Second Series.

LESSON X.

The Most Important Part of the Poultryman's Equipment.

BEFORE leaving the class of topics we have been discussing in the last few lessons, I want to consider more particularly some of the points that have had incidental mention in them. We have discussed a number of matters of prime importance to the beginner in poultry culture:—the possibilities of the business, the different branches of it, locations, markets, the kinds of stock, and various like questions, and I have tried to indicate how a venture in poultry keeping may be as free as possible from mistakes that use up the beginner's capital and often exhaust his enthusiasm.

But not only through these lessons, but constantly in correspondence with readers of the paper, I find that many express in varying degrees the feeling of the correspondent whose letters with my comments on them appear in this issue of the paper. They think it would be much easier for them to get along if I would explain and decide for them in everything, down to the last and least detail, and where I stop they imagine that there are other reasons for stopping than those that are given, and that my freedom of speech is restrained by consideration for other interests.

When in connection with this series of lessons, I organized a special class in poultry keeping, with the purpose of keeping more closely in touch with a number of poultry keepers, and following their work in its details, and advising them more definitely than is possible in the majority of cases, I found in connection with this class an obstacle I had not at all anticipated. By far the greater number of the class evidently failed to understand that the "Special Section" was in effect only an effort to give individual instruction, as far as it could be given under such conditions, to a limited number of readers of the paper. The questions they asked, and the comments they made soon made it clear that the general idea was that the special section students were to be given such an answer as they wished to any question they saw fit to ask.

At the time I was quite at a loss how to account for this, for I had tried in the announcements and in all correspondence relating to this plan, to make it entirely clear that I was not going to do these very things. I have since thought that this general misapprehension of the purpose of that plan was owing to the general feeling among novices that the greatest hindrance to quick and sure progress in poultry culture was in the impossibility of getting absolutely authoritative and reliable directions as to what to do in every instance where the poultryman is called upon to make a decision.

In a sense this is true:—but what to the novice seems to be the trouble is not the real trouble. His view of the situation is superficial. His difficulty is not that he can find no one to direct him, but that he does not know himself. He is undertaking to do things for which he has had no preparation, or inadequate preparation. The first and strongest reason for urging beginners in poultry culture to begin small and go very slowly, is that only in this way is it possible for those who learn by themselves (that is, who through the agency of books, papers, their own experience, and an occasional interchange of opinions with another poultry keeper, are self-taught) to be in any sense well prepared to make choice and decisions when necessary.

Where a man learns poultry keeping as he would a trade, occupation, or business in which a thorough training covering a period of years is regarded as essential to proficiency, he has, during all that period, frequent—perhaps daily—opportunities to see how others under various conditions make such choices as he would have to make if in business for himself. He can also see subsequently how events mark a course as wise or unwise, and through it all he hears from those interested in the matter discussion of all phases of the situation.

Now there are, as we all know, some men whom no amount of training, experience, and instruction will fit for positions of independent responsibility. They need always someone to oversee and direct their work, to plan for them and decide for them. And there are some men who, wherever you put them, learn very quickly, as compared with the average of their fellows. But I have never yet seen a man who in any position acquitted himself well who had not the particular kind of knowledge and skill needed for effective work in that position. He may not have acquired this knowledge and skill for the purpose of using it in this particular way, but it was knowledge and skill that could be applied, and when you hear of a man accomplishing wonderful things in a line new to him, you may be very sure either that his previous training adapted him to this work, or that the reports of what he is doing are exaggerated. In poultry culture the stories of phenomenal successes by novices are—I think without exception—greatly exaggerated, or refer to accidental successes never repeated. As I have said in one of the recent lessons, the plants that I know are successful have all been developed very slowly from small beginnings.

The attitude of the beginner who thinks he would get along all right if only someone would tell him just exactly what to do in each situation as it arises, after having outlined for him the general scheme upon which his poultry keeping is to be conducted, is practically that as he looks at it the poultry business is one that, with all conditions right or best, runs itself. Most beginners will unhesitatingly affirm that this is not their attitude at all, but in practice will still continue to show that that is exactly their position.

Mr. J. begins poultry keeping with White Plymouth Rocks, because in some way he has formed the opinion that they are the best fowls for his purpose. If his hens do not lay, and his neighbor's Buff Rocks lay well, he concludes that the fault is in the stock. It never occurs to him that it is in his inexperience. When he began poultry keeping he fed by the method that seemed best to him. Perhaps it was recommended by someone who used it very successfully. Not getting results by it, he casts about for another method. He takes that of the poultry keeper who, so far as he can learn, is most successful—just at that time. He succeeds no better by it, and tries another, with no better success. Perhaps he tries a dozen different ways of feeding before he begins to get a satisfactory egg yield. Then he thinks results are due to the particular feeding formula used. The fact usually is that out of his varied efforts in feeding he has developed judgment and skill in feeding, and the results he is getting are not due to special virtue in the feed in use, but to the cumulative knowledge and skill that have been acquired little by little.

There is another fact closely related to this which many do not appreciate. It requires a good deal of familiarity with a subject to enable one to grasp understandingly anything beyond the simplest and briefest statement of matters in it. Even in a series of simple and easily understood statements many will make no lasting impression on the mind of one not familiar with the matters treated. Some readers who thought the elementary lessons of last year very complete when they read them first, write me that in reading them over again in book form they find much more in them—much that escaped their attention in the first reading, though they read carefully. The printed matter is precisely the same. There is neither more nor less of it. The difference is in the reader. He knows more of the subject—perhaps more from other reading, but certainly much more by experience. This is his own knowledge—what he knows at first hand.

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partly from and partly through an acquaintance in the business. I did not get the results I thought I should have had, and blamed it on the stock, and discarded it all and bought new stock elsewhere, meantime harboring the thought that my acquaintance's aid had been more of a hindrance than a help to me. By the time I was getting good results in breeding I had discovered that, in general, the trouble that first year was not in the stock so much as in my inexperience. Later I learned that the stock soon became what its owner made it; that the most essential things in applying methods, and in the management of fowls, were good judgment and a thorough knowledge of the fowls with which one worked, and the various articles used; that—in short—the poultryman was the determining factor in every poultry venture.

Nearly every beginner supposes that he appreciates this. He counts as an important part of his equipment for the business a liking for fowls, or for outdoor life, habits of industry and perseverance and intelligence. These are all necessary, but they become directly available and effective only as they are displayed in connection with practical personal knowledge of the details of poultry keeping. The acquisition of such knowledge requires time, because variety in experience is required to give one such a general working knowledge of any subject that he is ready to act promptly and quickly in any situation in which in his line of work he is likely to be placed, and the beginner in poultry keeping often finds himself in situations that are full of trouble for one who does not know just what to do and how to do it, while one who did have that knowledge would soon have matters right or on the way to mend with the least possible loss.

Again, in every poultry undertaking there is a very large element of chance. Opportunities come which only the poultry keeper who is qualified to use them can estimate at their true value and take and use to advantage. This is, of course, equally true in all lines of work, but I doubt whether there is any other line in which so few of those engaged in it have had a thorough training. The newness of poultry culture as a business, or on a business basis is largely responsible for this. As I have explained in earlier lessons, there are conditions in regard to training of poultry keepers which limit opportunities to get a thorough practical training. But because this is so it is not necessary that the poultryman who learns by keeping his own fowls should get his experience regardless of expense.

The waste and loss of capital and of inclination to continue poultry keeping due to efforts to learn it on a large scale, are appalling—the more so because they are so utterly unnecessary. There is absolutely no need of anyone losing any considerable amount of money in poultry keeping while establishing a business, if he follows the simple rule of increasing his stock no faster than he is sure—entirely sure of his ability to handle it to advantage. If when making his plans a poultry keeper will base them on what he has done, rather than on what someone else has done or what he hopes to do, there is little danger of his planning beyond his capacity to perform. To be safe in his venture he must observe the necessary relation between his own development in knowledge of poultry and the growth of his plant. He must remember that it is always possible to adjust operations to his ability, but not always possible to adjust his ability to the scale of operations on which he endeavors to work.

In such matters as the purchase of stock, of appliances, etc., the only way a poultry keeper can buy goods to suit is by buying and discarding until he gets what suits him, not being too hasty about discarding unsatisfactory stock or goods, but giving each a fair trial. What suits one does not suit another, and each has to suit himself. It is possible, and when it can be done it is advisable, for a while, for a beginner to rely to some extent on the advice and suggestions of others, though I believe the beginner gets along best and advances fastest who, while considering advice and suggestions, makes the decision for himself when the responsibility for it, and the consequences, are his, and no one else's. I believe it is better for the beginner who is learning by himself to put the responsibility for what he does with himself, and not with his advisor, for—after all—when he takes advice, and acts upon it, he usually makes a choice between the advices available, and so the responsibility really is his own.

He needs to consider that he is likely to make mistakes, to fail to fully understand instructions given him, to neglect to do some things that ought to be done, and, in a variety of ways, to be personally and directly responsible for things that go wrong. I do not urge this with the idea of making novices feel that others are always blameless if advice they give does not result satisfactorily. There are cases where information given is misleading, and the novice cannot know it until by repeated experience the truth is made clear to him. But the usual attitude of the beginner is to look anywhere and everywhere but to himself for the causes of his troubles, and this attitude is a greater handicap on his progress than anything else could be, for it keeps him always searching outside of himself for reasons for the things that go wrong, when the commonest source of trouble is his own inefficiency.

So I say that the most important factor in poultry culture is the poultry keeper. It is only as he makes himself a poultryman that one is able to get value out of good methods, good stock, a good location, and good general ability.



Weight of Eggs—Improving Laying.

EDITOR FARM-POULTRY:—My White Wyandotte eggs—just as they come—average 2 1/10 ounces, from hens and pullets, and range in weight from 1 3/4 ounces to 2 3/8 ounces; chicks from 1 1/2 to 2 ounces at twenty-four hours old. I have hatched with hens and got 50% fertile eggs, and 99% strong chicks. I began with 36 hens to one cock. I have always had two cocks before to that number of hens, and I got lots of dead germs. Is there anything in this, or is it just luck? My hens have laid steadily since last October, scoring up to date 3,355 eggs, and I have fed the same as you feed Brahmas, quantity and quality alike. I have raised the average of my flock from 66 eggs per annum, to about 168 eggs in four years, and I began with exhibition stock; but I think most of the improvement is owing to the feeding, although I have always discarded the poor layers. I have never used a trap nest, as I have no time for that, and there is no need of it, as I can take up a hen in the morning, (before going to work), so that her weight comes on the abdomen, and the distention of the vent will tell me if she is going to lay that day, without inserting the forefinger. A farmer's boy in Lancashire, Eng., showed me this trick about forty-five years ago.

We are getting a very late cold rain storm from the southwest, which is very unusual here, and is responsible for this.

Auburn, Cal.

TIM SMITH.

Is Losing Few Chicks This Year.

EDITOR FARM-POULTRY:—As I am an attentive reader of F.-P., and like it the best of the three poultry papers I take, thought I would write and tell you how I feed and raise my chicks. This spring am trying a new plan. Before this spring I always fed my chicks on johnnycake and mash, and thought I did well to raise about 75%. Now I have given that up altogether; have not fed them a johnnycake or a mash at all. The first thing I do is to give them a little grit, then the first day a little bread and milk—bread squeezed dry—and after that cracked wheat, corn, oats and buckwheat; and out of 130 I have not lost one, nor had but one that was a little off feed for one day, but is all right now. Have had a few which my little boy squeezed too hard, that did not survive. Do not think that is doing so bad. Am raising White Wyandottes and using a Cyphers No. 1 incubator which works fine, and I might say that I have got as nice a flock of chicks as anyone would wish. Stanbridge Station, Que. J. G. MORGAN.

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Why the Birds Were Weighed.

IT seems that there has been a lot of trouble caused by a trivial mistake upon the part of our association regarding the weighing of young stock at our recent show.

The facts in the matter are these:—The Mahoning and Shenango Valley Poultry Association is composed of about twenty-five amateur fanciers and poultry keepers, not one of whom, previous to our show of December 6-9, had ever been connected with a poultry show. In order to get what we considered a good set of rules to govern our show, we selected various parts from several catalogues of other shows which fell into our hands. Among others we selected our Rule No. 20, containing the clause, "Young stock not weighed," which we thought would save us a lot of work, and also give late hatched birds a chance, especially as our show was rather early in the season. At this time the Standard of Perfection was still in press, and no one knew what rules would be found therein. However, we decided to have the new Standard govern our show, and we were unable to

obtain this book until after our catalogue had been printed. In the meantime our judge, T. E. Orr, had gone to the western coast, and did not see our catalogue until he was in our show room, and when this matter was called to his attention he gave us the choice of three things, viz.: 1st—Weigh and score. 2d—A comparison show. 3d—Put on his hat and go home.

The people here did not want a comparison show. We could not run our show without a judge, so we had but one thing to do—weigh the young birds—and as no one knew that the birds would be weighed it was as fair for one as another, for everybody entered birds which they would score highest—weight not considered.

With the exception of a few who "die hard," this was agreeably accepted by our exhibitors, and judge Orr gave such splendid satisfaction that he has been selected to judge our next show, assisted by Phil Feil.

CHAS. E. WATWOOD, Ex-sec'y.

Youngstown, Ohio.

Making Over an Old Hen House.

EDITOR FARM-POULTRY:—I have been a subscriber of your paper since Feb. 1st, this year, and as I am just a beginner with poultry, Barred Plymouth Rocks, this spring, I count the value of your paper as priceless to me.

I have been much interested in the articles referring to open front and muslin front poultry houses, as I am convinced the idea is right; but as I am an amateur in poultry matters it is a little hard for me to fully understand so much learned discussion. The muslin fronts are not used in this vicinity; in fact are laughed at as too airy for breezy Minnesota, but I do know this, greenhorn as I am, that upon visiting the poultry houses of three breeders of this vicinity during our cold weather last February, one man who had a crude style of muslin front house was the only one whose house was free from dampness, and one man had a stove in his henhouse at that.

This spring I bought a henhouse of a poultryman who was leaving this vicinity, moved it on my lot, and wish this summer to adapt some style of muslin front to it which will be suitable for the house. I expect to be laughed at by the other poultrymen here, but I think I am right. The henhouse is built 10 ft. x 18 ft., 8 ft. high in front, 6 ft. high in back, is built double walls, two thicknesses of paper between; also double floor, and shingled; has a medium sized door to the south, and two windows 48 x 52 inches to the east. The house is divided into four pens. Along the rear wall is a row of cupboards with wire screened doors, for sitting hens, or used to put nest boxes in. The roosts are below these cupboards, and that brings them about 12 inches from the floor; no droppings boards at all. There are three little ventilators cut through the walls under the windows in front, also a square cut out of the top of the door.

For winter use there are storm windows and storm door, and muslin curtains fastened to the window frame. For this summer I screened the entire window frame on the outside, and have taken out the window sashes entirely. When the sun is too bright or it rains from the east I let down the muslin curtains. I also made a screen door of one inch wire for the south, and took the storm door off. So far it is good, but the ventilation for winter bothers me. Now my idea is this: to leave the windows out till real late in the fall, then put in the upper sash of three panes, and fasten them in tight. Buy empty sashes for the lower ones, and cover them with muslin; also fix a muslin frame for the ventilator hole on the door. Would that make it too cold on the birds roosting so low? and would I need to put the storm door on? If I do that I don't see what good the ventilator in the inside door will do. Would that give sufficient ventilation? If this plan isn't correct, what one would be most feasible for a coop of this plan?

I do not know whether a letter of this

length is welcome to the paper or not, but have enclosed a stamp hoping I may get a reply through either the paper or mail. It is hard for a woman to be a carpenter, but I am doing the best I know how, and trying to plan so that my first prize cockerel this coming winter will be in the best of health, and escape a frozen comb.

Mrs. C. A. P.

We don't judge letters by their length here, unless they combine emptiness and length, and that combination is rare in contributions from poultrymen, most of whom write only when they have something definite to write about.

The first suggestion I would make about this house is that, if possible, it should be set to face south instead of east. This is advisable not only because that way the house will get more sunlight inside, but because the house facing south can be kept open much more of the time than one facing east, not nearly so many storms coming from the south.

I don't know that it would make much difference, but in planning to use some muslin covered frames or sash in the windows, I

think I would divide the window openings up and down rather than across, and make one-half muslin the other half glass, if it can be done without too much trouble. The windows, as indicated on the sketch Mrs. P. sends, are 48 inches high, by 52 inches wide. Whether the change I suggest could be readily made depends on the construction of the window frames. The advantage of having the muslin the full height rather than the full width of the window, would be that the circulation of air in the upper part of the house, and perhaps also all through the house, would be better. If it would be too troublesome to make this change the same result might be obtained by having the entire window furthest from the door fitted with a muslin covered frame. The house is so small that

that plan might work all right. The house indeed is too small to be divided into four pens. It is just the size of a section of the open front scratching shed plan, once so popular. It will accommodate properly 20 to 30 fowls, and will give them better accommodations if they are in two flocks than in four.

As to how far the open front idea can be carried in this case, I cannot say. That question each has to work out for himself, according to climate, local conditions, and the kind of stock kept. The hens of most kinds can stand more cold than the males' combs will stand without frosting. Sometimes the males can be kept in a cold house by simply watching the weather, and giving them extra protection on cold nights. Thus in this house a curtain over one of the coops for broody hens

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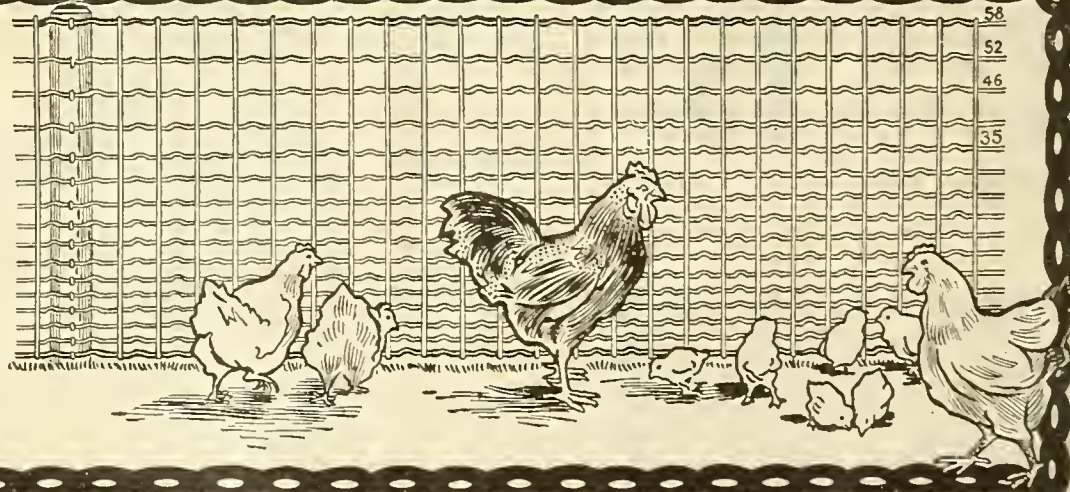
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The "Pittsburgh Perfect" Poultry and Garden Fence is exactly what its name indicates. It is "Perfect" because made of special steel of our own formula; "Perfect" because heavily galvanized, thus preventing rust; "Perfect" because our electric welding process makes stay and strand wires one piece so that mesh cannot spread to let fowl through; "Perfect" because smallest wires in it are heavier than the wires used by most fence manufacturers for a regular stock fence; "Perfect" because it is the only fence that will not unravel if strand or stay wire is cut.

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To say, when writing Advertisers, "SAW AD. IN FARM-POULTRY," will benefit you—please them—and help us.

on the rear wall would make of it a closed roosting coop in which the male might be kept without freezing his comb, the heat from his own body confined to the coop keeping the temperature up enough to protect his comb.

In matters of this kind the poultry keeper chooses between giving all the fowls the benefit of more fresh air, and having a house

requiring less looking after in most weather, and giving the male birds special attention in extreme cold weather.

The extent to which the house can be kept open to advantage should be determined experimentally. Don't go to the limit at first, but when it is found that a degree of openness is absolutely safe, increase it little by little as long as results are satisfactory.

The Hawk Question Still Unsettled.

EDITOR FARM-POULTRY:—I read years ago in the Year Book of the Department of Agriculture, the report on hawks, referred to by F. H. Hall, in your issue of June 1st, and thought then, and do now, that the report contained a refutation or, at least, a weakening of its own argument. To get 1,393 hawks a large share of the shooting must be done in swamps so far away from farmyards that the hawks would have to live on something besides chickens. Another point which the report does not clear up, is the season when these innocent hawks were killed for the benefit of their race, and to give government clerks an excuse for shooting something. Of course the little sparrow hawk would not have any remains of poultry in its stomach after chickens got too large for him to handle. There are times when green corn could not be found in the stomach of a coon; but that and the hawk testimony are negative evidence rather than positive. When a person sees a hawk catch a chicken he knows more about the habits of that bird than any theorizer. If the department would report on the stomachs of caterpillars from a thousand wild cherry trees it could make out as strong an argument for the claim that caterpillars did not injure apple trees.

The said department made another report of investigation of the stomachs of smaller birds, trying to prove that they lived on insects instead of fruit, and here again the season should have been taken into consideration. It was ostensibly an effort to prevent the slaughter of these birds by convincing farmers of their innocence; yet more birds were reported as killed by these "scientists" than would have been killed by all the farmers in the country in a lifetime. Furthermore, an agricultural publication is not the agent by which to give out such information; it is a class of people who do not read such papers

or books who do the promiscuous and reckless shooting.

I consider such investigations and reports as humbugs intended to give prominence to the studies of a certain class, and to bring the intelligence of the farmers into disrepute, and bolster up the outrageous game laws with which we are burdened.

Another correspondent mentions a "limy" discharge from the chicks. I have had the same in my flock, and never had an incubator nor a brooder; so the trouble must be traced to some other cause. I have had it appear in hens that were laying; it would form a white granulation on the feathers, and one hen had the egg passage protrude, and on cleansing it I found a mass of what appeared like lime or white grit packed in the passage.

One hen got so bad that I counted her among the dead ones, and two days I found her with the organ hanging out with a full sized egg in it. I stripped the eggs out and put the organ back, and she got over it when she stopped laying, and has hatched a brood and gone to laying again without any trouble.

I started in this spring to use hens' oil on chicks' heads for lice, but found some cases where the skin on the necks was made stiff and sore, as is sometimes the case when lard is used. Now I use sweet oil, and think it gets to the spot more surely and readily than the powder, as the head is where lice trouble chicks for the first few days. Strong, fresh insect powder often gets into their eyes and makes them sore. Furthermore, as I understand the case, it is the fineness of the powder rather than its strength or composition that kills the lice by smothering them. Road dust is often used on cattle, and is recommended by our editor for poultry. I believe dry coal ashes as good as tobacco dust, and safer than sulphur to put on chickens.

Manchester, N. H. O. H. LEAVITT.

The Editor's Question Box.

In this department the editor will answer miscellaneous questions on poultry topics, and all special requests for his personal views which can be answered briefly. Inquiries will be answered as promptly as possible and as nearly as may be in the order in which they are received.

Color of Comb. (J. L.)—"Should the comb of a healthy, hardy hen be *pale* or *red* when sitting? I have some of the same flock that are very different in this respect."

The comb, while not of the rich brilliant red color common in laying hens in good condition, should not be noticeably *pale*. If it is so, the hen is probably not in good condition—something wrong. Sometimes lice drain the hen of blood, and the comb gets very pale, quite yellow.

Broody Leghorns. (J. L.)—"Last year I bought a sitting of R. C. White Leghorn eggs from one of the great prize winners of the south. If my memory is not failing me it was claimed the male cost \$500. Four out of the seven pullets are now broody. I can handle three of the four nearly as well as I can my Wyandottes. Is this common?"

So much broodiness in Leghorns is rare, and such docility is also rare, except where the fowls are petted. I don't think \$500 was ever paid for a Leghorn of any variety, and I never heard of \$100 for a R. C. Leghorn. If I am wrong some of the Leghorn breeders will correct me.

Is This Vertigo? (J. L.)—"I have a Wyandotte pullet sitting. I take her off every day. She appears well; her comb red as if she were laying; but for two or three days she has been walking backward now and then. She eats and drinks and dusts herself

as well as any, and her bowels seem to be regular. She finds her nest without aid. Is this vertigo? I shall cut off her feed a little for a few days, and watch the effect. It would hardly do to give oil when she is sitting. I shall allow her to come off and take her bath and exercise. Can you suggest a better treatment? All my chickens are in good condition, and possibly too fat, but have been laying well, and very free from disease, except occasional looseness of the bowels. I have not noticed that this one has been troubled that way."

There may be a little vertigo here from overfeeding while incubating and inactive. Better let the hens judge for themselves about coming off. Some will not come off of their own accord, but will eat and drink if taken off. Some will leave the nest voluntarily only once in two or three days, and as long as their bowels are right seem just as well off as if fed daily, though it has always seemed to me that, in general, these close sitters were not as good hatchers as those that were ready to come off daily.

What to do With Broodies Not Needed. (J. L.)—"If one does not need to set all of his broody hens is it wise to let his best layers sit on china eggs for a while after continuous laying? Mine came about one hundred and fifty miles in a freight car with my household goods, and ten miles in a wagon, and some of

SPECIAL BARGAINS.

One Barred Rock pen 8 females and male, year old stock, \$15.00. Trio White Rocks, 3d prize cockerel, Freeport, Me., Dec., 1905, two fine females \$15.00. Eggs balance of season \$2 per sitting.

A. P. WINSLOW, Box 142, Freeport, Me.

"QUALITY KIND" POULTRY SUPPLIES.

Cornell Incubators—Peep-o'-Day Brooders.
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POULTRY SUPPLIES

Of every description, Prairie State, Empire State and Star Incubators and Brooders, Drinking Fountains, Wire Netting, Spray Pumps, Whitewashing Machines, Powder and Liquid Lice Killers, Roup and Cholera Cures, Condition Powders, Egg Foods, Oyster Shells, Beef Scraps, Dog Cakes and Medicines, and everything necessary for Breeding Poultry and Pet Stock.

Our immense illustrated Catalogue gives a complete list. It is free. Send for one.

EXCELSIOR WIRE & POULTRY SUPPLY CO., Dept. 1,
W. V. RUSS, Prop. 26 and 28 Vesey St., New York City.

SINGLE COMB RHODE ISLAND REDS.

AT BOSTON, 1906.

We made two entries in pullet class of 15, and won two ribbons. Won Silver Cup at Falmouth, 1905. We won for best display at Brockton, 1905, also for best display at Plymouth, 1905. Cockerels from \$3 up; pullets from \$1.50 up. Eggs from choice matings \$2 sitting; three sittings \$5; \$10 per hundred. Prize matings \$3.50 sitting; two sittings \$6. Incubator eggs \$1 sitting; three sittings \$2.50; \$5 per hundred. Roun and Indian Runner Duck eggs \$1 per 11.

WHITE BIRCH POULTRY FARM,
W. H. WITHINGTON, Mgr., Union St., Bridgewater, Mass.

IT'S UP TO YOU.

I must reduce my stock at once, and will make right prices on my breeding pens. Some extra choice males and females in

WHITE PLYMOUTH ROCKS

If you intend making up some fine pens next fall, write your wants to

JOHN A. FRYE,

Box 100.

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Chapman Chicken Compound



Is a preventive for that cripple growth so often seen in little chicks. It has great medicinal properties, showing its worth as a bowel regulator, keeping the little chicks' digestive organs in a healthy state, and it eliminates the cause of that great death rate. This Compound carries the little fellows through that most trying period, from the hatch until they are six weeks old. It will cure when other poultry powders fail. A trial of this Compound will convince the most sceptical. It is sold in 25c., 50c. and \$1.00 size boxes. The 25c. box will be sent by mail on the receipt of 40 cents. This Compound will remedy a multitude of errors in improper feeding.

Manufactured by the

CHAPMAN CHICKEN COMPOUND COMPANY, - - Boston, Mass.

Write for Agency.

THE SAME OLD STORY

In the same old way.

DUSTON'S WHITE WYANDOTTES

Still in the leading, same as in years past; literally thousands of prizes won by my customers this past season. Do you want stock or eggs, or know more of the best strain of the best breed on earth, or the testimonials of successful customers? Send four cents in stamps to the breeder that has made possible the world's best flocks.

ARTHUR G. DUSTON,

No. 223 East Main St.,

So. Framingham, Mass.

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ACCOUNT BLANKS.

WHY not begin any day keeping poultry records by Every Day Poultry Account Blanks, 1-26-27 E. E. Waterman, Box 912, Williamstown, Mass.

ANDALUSIANS.

ANDALUSIAN stock and eggs; list and circular free. L. C. Taylor, Gibsonburg, Ohio.

BANTAMS.

GOLDEN SEBRIGHTS, White Cochins; prize winners. Davenport P. Yards, New Haven, Ct.

13 BUFF or Black Cochins eggs \$1; prize winners. Geo. Monroe, Jr., Dryden, N. Y.

BRAHMAS.

LIGHT Brahmans, large and handsome, eggs, 10c, each; \$6 per 100. J. R. Hatch, Cliftondale, Mass.

LIGHT BRAHMAS only; hardly stock, bred for winter layers. Large brown eggs, \$1 for thirteen. Haystack Mountain Farm, Norfolk, Conn.

PRIZE winning Light Brahmans for sale cheap. East View Poultry Yards, Ballston Spa, N. Y.

BREEDING STOCK.

ALL BREEDS of live pure bred poultry, pigeons, pheasants, turkeys, rabbits, Belgian hares, cavies, dogs, cats, and all pet stock. A complete list in our large 162-page catalogue. Excelsior Wire and Poultry Supply Co., Dept. L-26 and 28 Vesey St., New York City.

FOR SALE, 5 cocks, 50 hens Buff Wyandottes; 5 cocks, 50 hens Buff Plymouth Rocks; 2 cocks, 20 hens, Buff Leghorns; 1 cock, 16 hens Silver Pencilled Wyandottes; 2 cocks, 20 hens R. C. R. I. Reds; 20 hens S. C. R. I. Reds; price \$1 each; all fairly good breeding stock. Rowland G. Buffinton, Somerset, Mass.

BUCKEYES.

BUY BUCKEYE EGGS at half price after June 1st, from the originator. Illustrated booklet free. Red Feather Farm, Warren, Ohio.

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CHARCOAL, Medium fine or granulated \$1.75 per bbl. Freight paid. Hollis, Park & Pollard Co., Canal St., Boston.

POULTRY CHARCOAL only \$1 per bbl., sample free. C. B. Chareoud Co., Bridgewater, Mass.

CHICKENS.

5000 NEW hatched chicks from heavy laying large size breeders. S. C. White Leghorns \$10 per 100; best strains; order at once. C. A. Stevens & Co., Box 5, Wilson, N. Y.

WHITE LEGHORN incubator chicks; 1000 every week, 12c each; \$10 per 100; from our prolific laying strain. Have sent them over 1000 miles safely. We try to please. Circular free. Christy Poultry Farm, Cortland, N. Y.

BABY CHICKS just hatched, can be shipped safely. White Wyandottes, S. C. W. Leghorns, 10c each; thousands hatched weekly; eggs 5c each. Curtiss & Co., Ransomville, N. Y.

DOGS.

THOROUGHbred Scotch Collie pups with pedigrees at \$5, male, female or spayed. A. H. Ranck, Ronks, Pa.

20 COLLIE pups, Fox and Rab. Hounds, Pnt'rs, Set's, Fox Ter's. J. Boyce, Summitville, N. Y.

DUCKS.

2000 PONDEROUS Pekins for sale. Eggs \$5 the 100; \$45 the 1000. White Rock and White Wyandottes \$5 the 100; Pea fowl, quail; prompt shipment. Golden West Duck Ranch, Joliet, Ills.

JERSEY strain Pekin ducks please; eggs \$1 per 10; catalogue free. Springer Bros., Bridgeton, N. J.

YEARLING Pekin, Rouen, Colored Muscovy, \$5 per trio; Indian Runners \$2 each. Order or stamp. I. H. Scribner, Cotooncook, N. H.

EGGS.

FOR SALE, S. C. Rhode Island Red eggs, \$4 a hundred. New Castle Poultry Plant, New Castle, Del.

BUFFINTON has reduced the price of eggs. Buff and Partridge Plymouth Rocks; Buff, Silver Pencilled, and Columbian Wyandottes; Buff Leghorns, and R. C. R. I. Reds \$1 for 13. Eggs for incubators from Buff P. Rocks, Buff Wyandottes, Buff Leghorns and R. I. Reds, \$3.50 for 100. Rowland G. Buffinton, Somerset, Mass.

FAVEROLLES.

FAVEROLLES—"The king of utility fowls." Circular or stamp. Dr. Phelps, Glens Falls, N. Y.

SALMON and Ermine Faverolles, 16 eggs \$1.50; 30, \$2.50. Buff Orpingtons, 15 eggs \$1.25; 30, \$2. Lakenvelders, 15 eggs \$3. A. F. Melrose, Goffs Falls, N. H.

FEEDING POULTRY.

NEW METHOD Dry Feeding (revised), Directions 25c. Dr. Nottage, Goshen, Mass.

GAMES.

CORNISH INDIAN GAMES. For the present season I have selected and mated fifteen choice pens containing my prize winners at Springfield, New York, and Boston. All birds are farm grown, large, strong, vigorous and healthy. Eggs \$2 per 15. A. H. Sagendorph, Alta Crest Farm, Spencer, Mass.

GRIT.

GRIT? Try Silverdale grit. It is only \$1 per 100 lbs. Others like it; you will. W. D. Quimby & Co., 6 Merrimac St., Boston, Mass.

HOUDANS.

PINCKNEY Houdans, large, dark, heavy crested birds, bred by trap nest system, winners at New York, Boston, and other shows. A few trios for sale. Eggs \$3 sitting. Park View Poultry Yards, West Springfield, Mass.

IDEAL Houdans won Boston, other N. E. shows. Eggs \$1.13. C. E. Marshall, Rowley, Mass.

JAVAS.

BLACK JAVAS. Yearling cocks and hens with score cards for sale at bargains. Write for prices on March and April cockerels. G. M. Matthews, Brocton, N. Y.

LEC BANDS.

COLOR BAND your poultry, pigeons, identify at sight across pen; no handling necessary. Price list, samples, stamp. A. Spiller, Beverly, Mass.

COLOR LEG BANDS of double celluloid, half an inch wide, in two fast colors running around the leg—no disk—containing three times the material and three times the labor of the single celluloid band with disk, and possessing ten times their durability and visibility. Sample dozen 30 cts. Booklet, "Secret of Profitable Squab Raising," 10 cts. We also make a specialty of starting beginners with the right squab stock in Homers, Runt-Duchesses, and Runt-Duchesse-Homers. W. G. Todd, East Bridgewater, Mass.

LEGHORNS.

20000 FERTILE eggs for hatching. S. C. White Leghorns, high class stock, bred for heavy egg production, summer and winter. Breeders are large vigorous birds; eggs \$1 per 13; \$2.50 per 50; \$4 per 100; \$8 per 200; \$15 per 500. Stock for sale; young chicks \$10 per 100. Van Dreser and Blanchard strains. C. A. Stevens & Co., Box 5, Wilson, N. Y.

CHOICE S. C. B. Leghorns, free range, farm raised; eggs fifteen \$1; \$5 100. Chicks 15c. Breeders for sale. J. R. Hatch, Cliftondale, Mass.

S. C. W. LEGHORNS \$1 EACH. A. G. Bedell, Coxsackie, N. Y.

S. C. White Leghorn yearlings \$1; bargain price. Hollman's Poultry Farm, Ramsey, N. J.

PEN S. C. W. Leghorn fowls; yearlings. Blanchard stock. J. Boyce, Summitville, N. Y.

FIVE hens and cock, S. C. W. Leg. Excellent layers, breeders. T. D. Schofield, Woodstock, N. H.

MINORCAS.

1000 Minorcas, best quality, 28 page cat. Geo. H. Northrup, R. F. D. 2, Raceville, N. Y.

BLACK Minorcas. Choice stock always. Eggs \$3 13. R. Story, 187 Arlington Ave., Brooklyn, N. Y.

WHITE Minorcas, Madison Sq. winners; eggs \$3 per 15. M. E. Caverly, East Nutley, N. J.

ORPINGTONS.

ORPINGTONS, BUFF, BLACK, WHITE. Why not have the very best obtainable? First cost may be a little more, but you get the stock and blood from the grandest winning strain in America, and from the largest Orpington breeder. Send for forty page illustrated Orpington catalogue, also mating list describing thirty-two breeding yards and prices of eggs. The blood from the largest winners at New York the past three years is in these yards. Box 59, Willow Brook Farm, Berlin, Conn.

BUFF Orpingtons, Salmon Faverolles; 13 eggs \$1.50. Trios for sale. Arthur Waite, Rockville, Mass.

PHEASANTS.

HIGHEST prices paid for Pheasants, Homers, common and fancy pigeons, peacocks, ferrets, guinea, standard fowl, turkeys, bantams, geese, quail, deer, dogs, fancy waterfowl, wild game, singing birds; also eggs; state prices. N. Wicks, Arlington, N. Y.

PICEONS.

JERSEY STRAIN HOMERS always please. Catalogue free. Springer Bros., Bridgeton, N. J.

SEND me twenty dollars for twenty-two pairs of the finest squab breeders you ever saw. Nest mated, and no disease. Room is my object. W. H. Harris, 16 Locust Ave., Danbury, Ct.

GUARANTEED MATED HOMERS FOR SALE, from oldest and highest grade squab farm in America; capacity of farm 14000 birds. John Y. Crawford, Mt. Pleasant Pigeon Farms, Bryn Mawr, Pa.

them never gave up laying until now. The eggs were fertile, too."

I either let such hens stay on the laying nests for a week or ten days, and then break them up, or let them hatch a few chicks, though I don't need the chicks. At this season of the year the breeding pens are likely to be broken up by absence of sitting hens, and broodies may be left there without interference with layers. Another plan I sometimes use is to give a good hen becoming broody now the egg—that another hen has partially incubated, and let her hatch and rear the chicks. Just what is done does not make so much difference as that the hen that has laid heavily and is wanted for breeding again should have a rest.

What is the Lesson? (J. L.)—"A Leghorn pullet became egg bound. One egg was broken, one was apparently good and of ordinary size, a third was larger, but without shell. She was killed and eaten with no bad effects. Next day the two eggs were not fit to use. What is the lesson? Had inflammation set in and spoiled the eggs?"

I suppose that in such a case the only explanation is that bacteria in the eggs caused rapid decomposition, and that the hen, if not killed, would have died from the effects of the same bacteria in torn or ruptured parts in a very short time. In egg bound and ruptured hens, or where the oviduct has protruded and been replaced, it is quite common for the hen to seem as usual for a day or two, and then rapidly decline. This is probably because without proper cleansing and treatment of the affected parts, bacteria begin at once to develop; but not for a day or two with visible serious results.

Sunflower Seed. (W. D. H.)—"Is sunflower seed a good food for laying hens at other times than the molting season? Is there danger of feeding too much of it if a variety of grain is fed?"

The extent to which sunflower seed can be advantageously fed to poultry has not—so far as I know—been determined, even roughly. The story of a remarkable success in egg production, which made such a sensation in sections of the agricultural and poultry press a few years ago, included a statement of the use of large quantities of sunflower seed as a factor in promoting both laying and molting. As there was a good deal of exaggeration, and some misrepresentation in this case, it will not do to place much reliance on anything in it. Personally, my experience with sunflower seed leads me to believe that its virtues are much overrated. My experience with it is not large, because I found no advantage in the use of a little of it occasionally that would lead me to continue its use, and to use more of it. More than one-fourth of it is fiber. It contains three times as much fiber as oats, and more than fourteen times as much as corn or wheat. Such an excess of fiber makes a seed unpalatable to fowls, and they will not, as a rule, eat such seeds except in small quantities. I do not think there would be any danger of fowls well fed on other grains eating an injurious amount of sunflower seeds. Whether it would pay to feed them, even in small quantities, would depend on the cost. I would not pay any more for them than for corn, and if I had land which might be used for either I would grow corn in preference.

Some Questions on Fertility. (M. E. V.)—"Can you tell me what is best to do? Plymouth Rock cock with twelve hens, chiefly two year olds. He was an April bird, so I class him as a cock. Bought from a reliable man. He is apparently all right, but he only fertilizes about one in four eggs. Fed all winter—so were the hens—on a chiefly corn ration; same this spring. Is the trouble in the feed? Will he do better as a two year old, or would it be best to cut off his head and buy a new one? Hens did not lay in the

Dr. Sanborn's Mail Poultry Course Helps produce and handle the 200-egg pullet. Simple instruction, covering one year, for \$1. Dry-feed method, forced-molt, winter eggs, etc. Dr. N. W. SANBORN, Box 306, Bellingham, Mass.

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All summer while prices are low, and sell next winter at a good profit. Write for our plan; it will interest you. T. T. POULTRY CO., Springfield, O.

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BUFF ROCKS, winners of 100 premiums in three years; solid in color; stock and eggs. Dr. Coolidge, Warner, N. H.

GOLDEN GLOW strain Buff Rocks. Three superb matings, every bird a rich solid buff. Pens headed by grand prize winning males. Superior combination of health, vigor, beauty and utility. Eggs that will hatch splendid chicks \$2.50 sitting. Matings list free. Mrs. J. H. Millikan, Toledo, Ohio.

BARRED P. Rocks and White Wyandottes; grand size, shape, color; result of 16 years breeding. Eggs from vigorous prolific stock, bred from our prize winners, \$1 for 13; \$6 for 100. Crystal Poultry Farm, R. F. D., Washington, N. J.

BARRED Rock eggs, best utility; Hawkins strain pure if preferred. Prizes at Stamford, Danbury, West Haven, Middletown and White Plains. \$2 per 13. Beagle pups. H. A. Crenaut, Port Chester, N. Y.

JERSEY strain White Rocks please; eggs, \$1.50 15; catalogue free. Springer Bros., Bridgeton, N. J.

RHODE ISLAND REDS.

17 PRIZES awarded on Shove's Rhode Island Reds and Houdans at the great Hagerstown fair. Eggs \$2 for 13; \$5 for 40. D. P. Shove, Fall River, Mass.

LARGEST WINNERS at the largest shows. Two firsts at both New York and Boston, 1906. Won all five firsts at Springfield, Mass. Send for egg circular and mating list of this large size, heavy laying strain. Frank D. Read, Fall River, Mass.

RED FEATHER FARM REDS are bred for utility and fancy; 1800 breeders. See advertisement, page 309.

RHODE ISLAND REDS, winners of 1st prizes, Boston, New York, Philadelphia, Rochester, and Cincinnati. Eggs at \$2.50 per 13; special mating at \$5 per 15. House Rock Poultry Farm, C. M. Bryant, prop., Wollaston, Mass.

ELMWOOD Poultry Farm, Bridgewater, Mass., headquarters for R. I. Reds. Stock for sale.

OFF REDS, Single and Rose, are silver cup winners. Particulars in free booklet. L. W. Bean, So. Braintree, Mass.

R. C. R. I. REDS, winners at Cambridge, N. Y. Eggs \$1 per 13; \$5 per 100. Tattle strain prize winning pen \$2 per 15. Separate farm from Rocks. M. B. Gould, Graubville, N. Y.

ATTENTION! RED BREEDERS. Would you grasp an opportunity? Listen—One of the most successful and best known breeders of exhibition Reds (both combs) is obliged, owing to a change in his regular business, to dispose of his birds. Entire stock, consisting of about 75 females and 12 males, selected and pedigreed breeders and show birds, including Boston winners; also over 400 chicks bred from about 30 of the best of above, all toe punched and recorded, together with records and good will; no reservation; will be sold for \$500 if taken within 30 days. Surplus cockerels can be sold this fall for more than that amount, and sales of eggs this season reached half of it. A rare chance to get the benefit of years of careful and intelligent breeding, and come to the front this season. Address Redman, care Farm-Poultry.

DEWOLF FARM, Pappoose-quaw, Bristol, R. I. Standard bred 1 and 2 year old birds. Prices according to quality. Booklet free.

CLARK FARM, Concord, Mass., offer for sale their entire stock of choice yearling hens and cockerels, Rose and Single Comb. Also all the incubators and hot water heating system for 60 ft. house; all nearly new and in good condition.

TURKEYS.

BRONZE turkey eggs from large vigorous stock. Write T. D. Schofield, Woodstock, N. H.

WANTED.

WOODLANDS FARM, IONA, N. J., largest utility poultry plant in America, wants inquiries about S. C. White Leghorns, White Wyandottes, and Barred Plymouth Rocks.

WANTED to buy young chickens for table purposes, and yearling hens for roasters, but no Leghorns or Leghorn crosses; only good stock wanted for good price and prompt payments. Fort Washington Dairy and Poultry Yards, 160th St. and Fort Washington Ave., New York, N. Y.

WANTED, position as manager of large poultry farm, or partly with capital to start; 10 years experience. F. W. Owens, Richwood, Ohio.

WANTED, 4 to 6 dozen dressed squabs weekly, from July to October. Address Poultry, Box 356, Saranac Lake, N. Y.

WYANDOTTES.

BUSINESS W. Wyandottes, Stock for sale; trap nests used. Michael K. Boyer, Hammon, N. J.

SILVER WYANDOTTES, winners of 15 out of a possible 16 firsts at Boston and Madison Square. We are booking eggs now. Send for list of matings. We will give you a "square deal." J. C. Jodrey, Box A, Danvers, Mass.

WHITE WYANDOTTES, our strains are winners the country over; stock for sale at all times. Barnes & Woodbury, Wenham, Mass.

WHITE WYANDOTTES—SNOWDRIFT STRAIN. We have mated up 25 pens of the short backed, deep bodied, blocky built, snow white kind. Book your egg orders in advance. All orders filled in rotation. High grade cocks, cockerels, and pullets for sale. Write for prices. Picturesque Poultry Farm, Box B, Trenton Junction, New Jersey.

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WHITE and Columbian Wyandotte eggs from our Rochester and Auburn winners. \$2 per 15. Circ. free. Christy Poultry Farm, Cortland, N. Y.

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WE HAVE BROKEN up our breeding pens, and can dispose of six extra line White Wyandotte cockerels. We have used these birds all this season, and our young stock is the most promising we ever had. Price, each, \$5 f. o. b. Durham (depot). N. H. Cash with order. Kidder Poultry Farm, R. D. 6, Dover, N. H.

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winter, although they had a warm coop. Other pens are doing nicely. A June cockerel fertilizes all right. Feed different, though.

On fertility I do not profess to know anything with certainty. I used to know all the rules for getting fertile eggs, but I have come to believe that, in general, there is no necessary relation between any of the points usually cited as conducive to fertility, and no necessary lack of fertility under conditions generally said to be unfavorable to fertility. As I stated some time ago, the fertility experiment I had planned for this season was not undertaken because the cockerel reserved for it was lost, and I had not another known to have the special characteristics for which I had retained this bird. But I have had four matings this year, and have had good fertility from two, and poor from two, and the two giving poor fertility were, of course, the two matings from which I was most anxious to get goodly numbers of chicks. These matings are giving better fertility now, but nearly all chicks from them will be late. In all the early sittings from these pens eggs were wholly infertile, or, at most, one or two weak germs in a sitting. Both of these matings were of cockerels and pullets. The mating giving me best fertility was also a mating of cockerel and pullets, the pullets all being sisters of the male with which they were mated. An old cock that gave me exceptionally good fertility as a cockerel last year has given almost as good fertility this year, though the hens he is mated with are some of them three and four years old. Getting absolutely no fertile eggs from my favorite cockerel mated with a pen of pullets, I tried him with three of these old hens. With one hen he is now fertile, but not with the other two. All the stock has been kept under conditions generally regarded favorable to fertility. Now I have a pair of geese that have been kept under just the opposite conditions ever since the beginning of winter. They are also young—not yet a year old. Further, the gander hurt his foot early in the spring so badly that for ever a month he could not walk, and still limps badly. The goose began to lay in March, and laid about thirty eggs, then quit for about ten days. A few of these first eggs were set, but tested out infertile, and after the accident to the gander I thought it not worth while to set any more eggs. When the geese began laying again I left the eggs in the nest, and she remained on the nest the greater part of the time after the first two eggs were laid, also continuing to lay nearly every day until she had eight eggs. A few days after the last egg was laid I thought I would test them, and was surprised to find every egg fertile, and apparently strongly fertile, though hardly any two at the same stage of development. What kind of goslings they will hatch remains to be seen. Young geese generally do not produce well. This pair have had no water except to drink, and this spring have had only a small bare yard, because I was making some alterations that made it inconvenient to give them such quarters as they should have, and as I did not expect anything from them this year I thought it less important to give them good accommodations. The "facts of fertility," as I find them, incline me more and more to the belief that fertility is largely a matter of the individual or individuals concerned, that individual capacity counts for more than conditions, and is perhaps the essential thing.

Cockerel Shakes His Head. (T. S.)—"I have a White Wyandotte cockerel that has a habit of shaking his head. He has sired 175 April chicks, all apparently healthy and rapid growing. He has never had a cold or been 'off his feed.' I have treated him for worms, without effect. Do you think he is likely to transmit this defect to his progeny?"

The habit may be due to nervous disorder, or to a tendency to apoplexy. Some male birds develop it after hard service in the breeding pen; but there are so many things that might cause it that it is not easy to know what is the special cause in every case. I don't think it is often transmitted.

POULTRY DISEASES.
If chickens are sick, will tell what trouble is, and how to cure. Don't let little chicks die after hatching them. Keep them alive and make them grow. Catalogue free. We keep poultry supplies.
JOHN J. RITZ & CO., Pittston, Pa.

Probably Not Gapes. (F. A. W.)—"Can you tell me any way to cure chickens of 'gapes'?" Out of a lot of thirty I have already lost six, and eight more are on their last legs. All have died, or are dying with the 'gapes.' Neighbors only one-quarter of a mile from here have not had a case in the last ten years. I have been told to put one-half teaspoonful of turpentine in two quarts of feed, but it avails nothing. I have spread a liberal amount of lime about, but that does not help matters at all. Do you think it would be well to put the chickens on a board floor rather than on the ground? They have been on comparatively dry ground, which was platted to corn last year, and which has not this year been plowed. They were out during recent heavy rains, but the coop was perfectly dry, and they are certainly no worse off than they were during the previous dry weather."

I doubt this being a case of gapes. Think it more likely that the gaping comes from some digestive trouble, like gastritis. Could tell better if I knew how they were fed, and whether they had access to anything of a poisonous nature.

Not So Easy.

Not long since a breeder said to me that being an editor of a hen paper ought to be such fun. I told him it looked easy, and was after one learned the wires. The man or woman who desires to edit a poultry journal should drop into our office shortly before noon on a hot summer day. A twenty pound bunch of manuscripts to sort over and cull, a half hundred letters to answer, ten complaints to adjust, and six grumbling letters all lie before him. Add to this the writing of two hundred field notes, the meeting of every office visitor with the glad hand and oily smile, whether you like him or not, and you have a fair to middlin' good mess of stuff to try out the aspiring one. Everybody wants what they send in—"published next month"—that is why we get roasts, and call downs, and a "you run my article next month or I'll never read your paper again." So there. We are open for suggestions, and whether they are useless, harmless, useful, good, bad, rotten, or punk, we accept them all with the same wan smile. Yes, being an editor is lots of fun. Why have I not as much reason to air my troubles as you yours?—*Poultry Topics*.

An ad. that doesn't tell the truth is a good deal like a glass of water colored to look like wine—the drinker isn't liable to come back for more after the first swallow.—*Rusty Mike's Diary*.

DON'T GET BUGGY.

NOW IS THE TIME TO GET AFTER THE LICE.

There are other lice killers on the market. Some are better than others, but we have tried them all, and found that our own mixture is more sure and lasting and does not "go solid" in the cans in any kind of weather. On a 2 gal. can at \$2.00 or 5 gal. can at \$3.00, we pay express or freight charges to your station east of Ohio. (35c. per qt.; 60c. per 2 qts.; \$1.00 per gal. f.o.b. our store). Grove Hill Poultry Yards, Waltham, Mass., Nov. 25, 1905.
W. E. Bright, Proprietor; A. C. Smith, Manager.

Messrs. Hollis, Park & Pollard Co., Boston, Mass.
Gentlemen:—We have used your Lice Killer all the past season among our growing chickens and mature stock, and find it stronger and more lasting and satisfactory than any other lice killer we have ever used.
Yours very truly,

So much for the bugs you can see. For the germ you can't see and that are always with us and must be kept quiet we sell PRESTO, the cleanest and strongest one of its kind on the market. This, also, on one gal. at \$1.50 and five gal. at \$7.00, we pay freight or express to your station east of Ohio.

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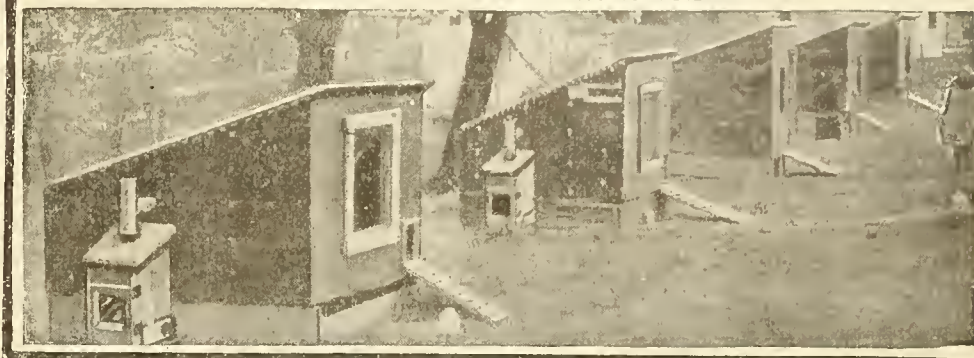
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T. E. Orr

Mr. Orr's Five Piano Box Brooders



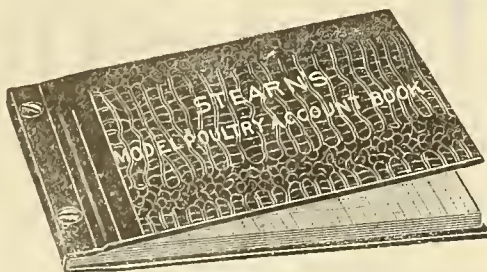
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Order one of these books at once if you wish an early delivery; but if this ad. does not convince you as to the merits of these books, write me and I shall be pleased to send you complete description and sample sheet.

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MARKET REVIEW.

BOSTON.

[From Boston Produce Market Report, June 7, 1906].

Eggs.

Receipts for six days, 67,554 cases; same week last year, 76,591 cases; previous six days, 48,075 cases; since April 1st, 542,428; same time last year 536,413 cases.

Receipts have been heavy since our last report, and for most of the stock offering we have had a dull, weak market. Most western have been showing the effects of heat, and only a small proportion good enough to bring over 17¢@17½¢. Strictly fancy Mich., Ind., etc., free from heat, have been in steady moderate demand at 18¢. Other western offering freely, and moving slowly, at irregular prices, from 16¢@17½¢, as to quality and condition. Dirties steady. Strictly fancy hennerly and extra eastern bring full quotations.

Quotations at Mark.

Fancy hennerly.....	21.¢@22
Me., Vt., N. H., and N. Y., extras.....	19.¢@20
Me., Vt., N. H., and N. Y., common to good.....	17.¢@18
Mich., Ind., Ills. and N. Ohio, best marks.....	17½.¢@18
Other fresh western.....	17.¢@
Kentucky fresh laid.....	16.¢@16½
Tenn. and other southern fresh laid.....	15½.¢@16
Western fair to good.....	16.¢@17
Western dirties.....	13.¢@14

Dressed Poultry.

Receipts six days, 4,181 packages; same time last year, 2,416 packages.

The market has been liberally supplied with western broilers all the week, and best marks have been offering freely and selling slowly at 13¢. Some arriving short of ice have to go lower, as to condition. Western broilers have been in moderate supply, and fancy marks in steady demand. Old cocks have been in full supply, and some cleaning up sales at 9¢.

Best northern and eastern fowls have been in moderate demand at 15¢. Broilers have been selling generally at 25¢@28¢, and under, but at the close are doing better, some fancy exceeding quotations.

The market is still well supplied with frozen poultry, and choice stock has a limited sale at quotations.

Fresh Killed Northern and Eastern —

Fowls, choice.....	15.¢@
Fowls, common to good.....	13.¢@14
Green ducks ½ lb.....	14.¢@15

Nearby Broilers—

Choice ¾ to 4 lbs. to pair, ½ lb.....	25.¢@28
Fair to good, ½ lb.....	22.¢@24
Squab broilers ½ pair.....	50.¢@55
Pigeons, choice, ½ doz.....	\$1.50 @ \$1.75
Pigeons, common to good.....	1.00 @ 1.25
Squabs, ½ doz.....	1.50 @ 1.75

Western Ice-packed—

Turkeys, ½ lb.....	14.¢@15
Fowls, choice western ½ lb.....	13.¢@14
Fowls, choice southern and southwestern.....	11.¢@12
Fowls, common to good.....	11.¢@12
Broilers, fancy, ½ lb.....	23.¢@25
Broilers, average.....	20.¢@22
Old cocks ½ lb.....	9.¢@ 9½

Western Frozen—

Turkeys, No. 1, ½ lb.....	18.¢@19
Turkeys, No. 2.....	14.¢@15
Chickens, choice soft roasting.....	14.¢@15
Chickens, fair to good.....	12.¢@13
Broilers, 1½ to 2 lbs.....	16.¢@17
Broilers, over 2 lbs.....	14.¢@15
Fowls, choice.....	13.¢@
Fowls, common to good.....	10.¢@12
Ducks.....	12.¢@13

Live Poultry.

Fowls have been ruling a little lower this week, best eastern having a moderate sale at 13½¢. There has been more inquiry for spring chickens of late, and with light receipts some of the best lots are bringing 25¢.

Fowls, ½ lb.....	13.¢@13½
Spring chickens, ½ lb.....	23.¢@25
Roosters, ½ lb.....	8.¢@ 9

NEW YORK.

[From the Producers' Price Current, June 5, 1906].

Eggs.

Receipts today 23,615 cases; last six days 108,209; previous six days 121,247. The market is unchanged. Demand continues pretty good for fancy eggs and for cheap stock, but the medium grades are plenty and rather quiet. The quality of stock offering is extremely irregular, and many marks that were formerly salable as "firsts," now have to go as seconds. Finest northwestern graded eggs are selling up to 18¢@18½¢, but there are not many such offering. Many of the selected goods, though of fine appearance and good packing, show too many hot weather eggs to exceed a range of 16½¢@17½¢, and this takes in about the best of the graded lots from southwestern points. Regular packings of ungraded or only loosely assorted stock are selling mainly at 16¢@17¢, when from northern points, and at a range of 15¢@16½¢, when from central and southerly western sections; and the latter must be unusually fine to exceed 16¢. Prime dirties and checks are in good demand and firm; some choice lots of both exceed quotations 1¢.

N. Y. Mercantile Exchange Official Quotations.	
Fresh gathered, extras, ½ doz.....	20.¢@21
Nearby fresh gathered, firsts to extra firsts.....	17.¢@18
Western, fresh gathered, extra firsts.....	16.¢@17
Western, fresh gathered, firsts.....	16.¢@17
Western, fresh gathered, seconds.....	15.¢@16
Kentucky, fresh gathered, seconds.....	15.¢@16

MACKELLAR'S CHARCOAL

For Poultry is the best. Coarse or fine Granulated, also powdered. Buy direct from largest manufacturers of Charcoal Products in the world.
R. MacKELLAR'S SONS CO.,
Est. 1844. Peekskill, N. Y.

Fresh gathered, thirds.....	14.¢@14
Western dirties, No. 1.....	12.¢@13
Western dirties, No. 2.....	12.¢@13
Checked eggs.....	9.¢@12

Dressed Poultry.

Receipts today, 4,534 packages; last six days, 13,538; previous six days, 13,844; last year, 7,544 packages. With fairly large supplies of fresh killed fowls, quite a little carried over from yesterday, and scarcely any demand, the market is in a weak and unsatisfactory shape, though without quotable change. Many lots have shown up short of ice and more or less out of condition, and such grades of uncertain value. Selected stock in perfect condition is freely offered at 12½¢, and that is the extreme, with some of the best marks offering straight at 12½¢, and good useful grades at 12¢, with inferior still cheaper. Broilers not in large supply at the moment, but invoices increasing, and with a slow demand the feeling is weak. Spring ducks liberal today, and with a slow demand the tone is easier, and some lots have been shelled a fraction. Squabs slow. Fresh arrivals of frozen poultry lighter this week, but liberal quantities available. Fancy roasting chickens selling fairly, and a few more desirable size broilers selling, but most other descriptions of frozen quiet.

Fresh Killed — Feed Turkeys—

Average lots.....	12.¢@13
Poor to medium.....	12.¢@13
Chickens, Broilers — 4 lbs. per pair and under—	
Philadelphia, dry picked, fancy.....	30.¢@32
Philadelphia, dry picked, average run.....	25.¢@28
New York and Pa., dry picked, fancy.....	25.¢@
New York and Pa., dry picked, average run.....	20.¢@22
Western, dry picked, fancy.....	24.¢@25
Western, dry picked, average.....	20.¢@22
Western, scalded, fancy.....	20.¢@22
Western, scalded, average.....	18.¢@20

Fowls—

Philadelphia, dry picked, fancy.....	13.¢@15
Philadelphia, dry picked, average run.....	12.¢@12½
Western, dry picked, medium size, selected, culls out.....	12.¢@12½
Western, dry picked, selected, barrels, heavy.....	12.¢@12½
Western, dry picked, average run.....	12.¢@12½
Western, dry picked, poor to medium.....	10.¢@11½
South and southwestern, dry picked, selected, barrels.....	12.¢@12½
Western, scalded, medium size, selected, barrels.....	12.¢@12½
Western, scalded, average run.....	12.¢@12½
Western, scalded, poor to medium.....	10.¢@11½
South and southwestern, scalded, selected, barrels.....	12.¢@12½
Southern and southwestern, scalded inferior grades.....	10.¢@11½

Other Poultry—

Old cocks, dry picked.....	8.¢@
Old cocks, scalded.....	8.¢@
Ducklings, Long Island and eastern, ½ lb.....	13.¢@14
Ducklings, other nearby.....	13.¢@13
Squabs, prime white, 8 lbs. to doz., ½ doz.....	\$3.00 @ \$3.00
Squabs, prime white, 7 lbs. to doz., ½ doz.....	2.25 @ 2.25
Squabs, prime white, 6½ lbs. to dozen, ½ dozen.....	\$1.50 @ 1.75
Squabs, mixed, ½ doz.....	1.50 @ 1.50
Squabs, dark, ½ doz.....	1.25 @ 1.50
Squabs, culls, ½ doz.....	50 ¢ @ 75

Live Poultry.

Receipts today, 9 cars of western and 6 cars of southern by freight, and about 1 car by express. Supplies for the week are not considered excessive, and with a fairly active trade prices were steadily held on fowls. Broilers not in as large supply as expected, and with a good demand prices rule firm. Other live poultry unchanged.

Broilers, nearby, ½ lb.....	26.¢@27
Broilers, western, ½ lb.....	26.¢@26
Broilers, southern, ½ lb.....	24.¢@24
Fowls, ½ lb.....	18.¢@18½
Roosters, old, ½ lb.....	7.¢@ 7
Turkeys, ½ lb.....	11.¢@12
Ducks, western, ½ pair.....	70.¢@80
Ducks, southern and southwestern, ½ pair.....	50.¢@60
Geese, western, ½ pair.....	\$1.25 @ \$1.50
Geese, southern and southwestern, ½ pair.....	90 ¢ @ 1.00
Pigeons, per pair.....	25 ¢ @

PHILADELPHIA.

[From official market report of the Philadelphia Produce Exchange, June 5, 1906].

EGGS.—The market rules firm for choice graded stock, for which there is a good demand that cleans up the moderate receipts. There is still considerable undersized, dirty and otherwise unattractive stock on the market that has to be worked off at concessions. Pa. and nearby, firsts, at mark..... 17½.¢@ Pa. and nearby seconds, at mark..... 16½.¢@ Western, extras, at mark..... 18½.¢@ Western, firsts, at mark..... 17½.¢@ Western, seconds, at mark..... 16½.¢@ Southwestern, firsts, at mark..... 17.¢@ Southern, fresh, at mark..... 14½.¢@16½

DRESSED POULTRY.—Fresh killed fowls are in ample supply, but steady, with a fair inquiry for choice lots. Roasting chickens are generally staggery and slow of sale. Broiling chickens continue in small supply, and desirable sizes meet with ready sale at former rates. Frozen poultry continues in ample supply and dull.

Fresh Killed Poultry —

Fowls, choice dry picked.....	13.¢@13
Fowls, fair.....	12.¢@12½
Old roosters, dry picked.....	9.¢@ 9
Old roosters, scalded.....	9.¢@ 9
Roasting chickens, prime.....	15.¢@15
Roasting chickens, fair to good.....	12.¢@14
Broiling chickens, nearby, weighing 3@4 lbs. ½ pair.....	28.¢@30
Broiling chickens, western, weighing 3@4 lbs. ½ pair.....	25.¢@28
Spring ducks, nearby.....	13.¢@14
Squabs, ½ dozen, white, weighing 8 lbs. and over ½ dozen.....	\$3.00 @ \$3.00
Squabs, white, weighing 7 lbs. ½ dozen.....	\$2.25 @ \$2.25
Squabs, white, weighing 6½ lbs. ½ dozen.....	1.80 @ 1.80
Squabs, dark.....	1.00 @ 1.25

LIVE POULTRY.—Supplies of all descriptions are moderate, and the market rules steady, with demand equal to the offerings of desirable stock.

Fowls, hens.....	14.¢@14½
Old roosters.....	9.¢@10
Spring chickens, large.....	24.¢@25
Spring chickens, small.....	20.¢@23
Ducks.....	12.¢@12½
Geese.....	10.¢@11
Pigeons, old, ½ pair.....	35.¢@40
Pigeons, young ½ pair.....	20.¢@25

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A scientifically balanced mash for producing rapid growth of broilers, roasters and show birds. Price 50 lb. bag \$1.15; 100 lb. bag \$2.00.

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ON

Races of Domestic Poultry

THE enormous developments of practical poultry keeping during recent years have necessitated a revision of our methods of regarding the various races of poultry. In these days the introduction of new breeds appears to be specially important, in order to meet the changes induced by our intensive systems of breeding. For some years Mr. Brown has been engaged upon the work now announced, and with it in view has traveled over the greater part of Europe. As a result, many races and subraces hitherto unknown have been discovered, and the result of these observations has been embodied in his new book, in the preparation of which assistance has been rendered by leading authorities at home and abroad.

The method of treatment is entirely new. An attempt is made to trace the origin, history, and distribution of the races of Domestic Poultry, and to show the evolution of breeds and their classification. Tables to facilitate classification are freely given, and in dealing with the various races the origin, history, economic qualities and descriptions enable the poultry keeper to easily discern their respective values.

Two Chapters of Great Importance

To breeders deal with external characters and their values, and laws of breeding and their application, in which many new aspects of these problems are discussed. A very comprehensive Nomenclature is included, giving the names of the different breeds in nine languages.

The work is elegantly illustrated by ninety plates and blocks, and it is, unquestionably, a book which will prove intensely interesting and especially valuable to the progressive poultryman. You ought to have a copy, price of which is \$2, but we are making a

SPECIAL OFFER: OF FARM-POULTRY ONE YEAR AND THE BOOK, "RACES OF DOMESTIC POULTRY," for only \$2.25

This is a splendid combination in every sense. Present subscribers may take advantage of it by sending \$2.25, and we will extend their subscription one year. All postage on the book is prepaid by us.

SEND ALL ORDERS AND REMITTANCES TO

Farm=Poultry Pub. Co., = = Boston, Mass.

To say, when writing advertisers, "SAW AD. IN FARM-POULTRY," will benefit you — please them — and help us.

Is This Scheme Practicable?

EDITOR FARM-POULTRY:—I have a scheme. Is it purely visionary, or is it practicable? First, I will tell you my situation. I own a good little farm of nearly fifty acres, all free and clear. It is only a few rods from one of Maine's beautiful lakes; an ideal place for summer; far better than the city; but winter is dreary and lonesome. My scheme is this: To purchase a small lot of land, about one-fourth acre, within ten or fifteen miles of Boston, put up a poultry house, or houses, with three or four rooms finished, to be occupied by myself and wife as a home in winter. I would then live on my farm here from the middle of March to the middle of October; raise a few hundred pullets; crate them, and send them down to my winter home near the Hub, sell the eggs to special customers, and in the spring sell the birds as market fowls; then close up my place near Boston, and return to the farm for another season of incubation and rearing of chicks. Each place would be furnished with household furniture, so that there would be no necessity of moving more than could be packed in three or four trunks. Is this scheme practicable, not as a money making affair, but just to pay running expenses, and that we may enjoy the church privileges, lectures, and theatres, which are blessings not to be had on the farm in winter?

If you can afford space in FARM-POULTRY for this letter and its reply, I shall be greatly obliged.

Of course I would leave a breeding pen of selected fowls here in the care of a trusty

neighbor, who would charge only a trifle for the labor of caring for them during the winter.
W. R. C.

I would not want to say very positively what might or might not be done in that way. If a man were trying a scheme of that kind I think the better way to work the Boston end of it would be to locate on a small farm convenient to everything, and rent it during the summer to city people who wish to summer in the country. A great many people of moderate means, especially those families in which some member needs to get away from the restrictions of city life, rent summer homes this way in towns within a dozen to twenty miles of Boston, and not infrequently these tenants will pay as much for a place for a few months in summer as it would rent for a local tenant for the entire year.

The change from one plant to another twice a year would probably make results rather more uncertain than usual. Perhaps the greatest difficulty would arise from delays in getting things under way at each move. Often a delay of a few days puts one behind during the whole season.

While it is probable that with careful management, and barring unusual bad luck, expenses would be met, I am inclined to think that most people would find the chronic unsettled state of affairs rather trying. This is one of the cases where I will be interested in results if Mr. C. concludes to try his scheme; but I don't want to be in any degree responsible for encouraging him in it.

Those Business Department Restrictions, Et Cetera.

EDITOR FARM-POULTRY:—With amused interest and approval I have read Mr. J.'s article in March 15th F.-P., in which he claims FARM-POULTRY a misnomer for your valuable magazine, and your shrewd reply, together with the rather pert butt-in of Mr. Dudley.

Assuming Mr. J. to be what he seems, his letter is typical of the blunt but genial farmer, and in my opinion his criticism and desire for knowledge are pardonable—even commendable. I arise to state that Mr. J.'s claims regarding his market are true of many good markets, my own among the number. I can get as much for a seven year old hen weighing six pounds, and broody, as I can for a prime young Rock cockerel of the same weight; and I have a good market, too.

Mr. J., being a farmer, will probably leave the culture of bantams to Mr. Dudley, and also, being a farmer, will plant onions, et cetera, enough for himself and the hens, too.

My hens have free range, and I find they do more good than harm in orchard, garden, and field. If ye editor's Sherlock Holmesing should indeed discover that Mr. J. is an "interested party" in search of some one to turn the crank while he holds the axe, his letter would then appear so ingenious, so plainly a masterpiece, that I vote him entitled to a little free advertising, and beg that you reveal his identity.

Personally, every issue of FARM-POULTRY is worth the price of a year's subscription, and in a matter requiring knowledge or judgment, its cautious editor is, in my opinion, a court of highest appeal. Yet, its name doesn't just fit, and there are business department restrictions which hold the editorial department to a somewhat narrow field of usefulness. But what's in a name? Neither Mr. J. nor I are worrying about it seriously. 'Tis the editorial wisdom we farmers are after, and though our oracle, like the Grand Chamberlain, Fadladeen, "in order to convey with clearness" the opinion in question, "must take a review of all that has even been written," etc., still, his opinion, when once chased down and cornered, is that of the expert and the adept.

So, with malice toward none, and charity for all concerned, let's accept FARM-POULTRY as it is—name, restrictions, and all, and

continue to gain knowledge and profit from its lessons, as I have done from every issue I have read.
J. L. G.

Editor FARM-POULTRY:—Referring to the contribution signed J. L. G., which you treated under the caption, "Business Department Restrictions," (F.-P., May 15th), if you will kindly rescue the note from the pigeon-hole, and look on the back of the folded MS. you will find the name and address of the writer, and we believe that ye editor will graciously admit that that is not an unusual place of inscribing it.

You request also that my "generality" regarding "business office restrictions which hold the editorial department to a somewhat narrow field of usefulness," be elaborated, detailed, and specified. My dear sir, generalities, even though not glittering, are sometimes of great worth. Technical detailed knowledge has its value as an established scientific fact, but it ends there. A generality is near akin to a principle, and when a generality is adopted and accepted by a large number of people it may raise armies, inaugurate reforms, and make history. So I pray you do not despise a generality because it is such, or criticize me too harshly for indulging in one in a mild way.

Admitting, however, that you are an interested party, I will comply with your request, not for the sake of argument, but with the hope that one more generality may be put to work to make the world better and safer and more fitted for man's habitation.

The comment referred to applies to all publications that depend upon advertising for their support. The Sunday magazine publishes weekly many pages of ads. heralding the virtue of articles which have no virtue, and nostrums which are extremely injurious to those patrons who innocently buy and use them. Now, Mr. Editor, if we should ask the

LAKEWOOD FARM LAYERS—THE GREAT PROFIT PAYERS SINGLE COMB WHITE LEGHORNS BRED TO LAY

Send For Our Literature.

LAKEWOOD FARM CO.,

Lakewood, N. J.



A CONVENIENT POULTRY HOUSE

Morgan's Sanitary and Portable Houses save you time, trouble and money. You get a neater and better building at less cost than if you hired a carpenter to build it. Send today for our free illustrated catalog. The Sanitary Portable House Co., Dept. D Lemont, Illinois

FALL'S BUFF ROCKS.

At Boston, 1906, won the \$100 championship cup for the second time. On three birds entered I won 1st cock, 1st cockerel, and second pullet. This with my winnings at Lawrence, Lewiston, and Portland, the last five years, places my birds second to none. Eggs for hatching at \$5 per sitting; two for \$5. Satisfaction guaranteed.
MELVIN FALL, JR., Berwick, Maine.



Banner Chick Food

Is the best food for Little Chicks. When fed on this food for the first 6 to 8 weeks they grow very fast and strong, and you can raise every one that's hatched. A complete food, but no Grit or Oyster Shells. You add these yourself. Prices 5 lbs. 20 cts.; 10 lbs. 35 cts.; 25 lbs. 75 cts.; 50 lbs. \$1.35; 100 lbs. \$2.50. Our 212 page Poultry Supply Catalogue free.

EXCELSIOR WIRE & POULTRY SUPPLY CO., Dept. I.
W. V. RUSS, Prop. 26 and 28 Vesey St., New York City.

RED FEATHER FARM REDS

Have Won in the Hands of our Customers at New York, Boston, Hartford, Dalton, Lennox and other large shows

EGGS FROM BEST PENS, \$2 per 15; three sittings, \$5.
UTILITY PEN, \$1 per 15; \$5 per 100; \$45 per 100.

CIRCULAR

RED FEATHER FARM, F. W. C. ALMY, Prop. TIVERTON 4 CORRS., R. I.

200-Egg Incubator \$12.80

The wonderful simplicity of the Wooden Hen and the greatly increased production forced by its immense sales, makes it possible to offer this perfect hatcher for \$12.80. Guaranteed to hatch as large a percentage of eggs as any other hatcher at any price. Self-regulating and fully guaranteed. Send for the free illustrated catalogue.
GEO. H. STAHL, Quincy, Ill.



TUTTLE'S ROSE COMB RHODE ISLAND REDS.

BREEDERS NOW FOR SALE.

Females \$1.50 to \$5; Males \$5 to \$25. Write for list of winnings.

ROBERT C. TUTTLE.

Blue Hills Ave.,

Dept. C,

Hartford, Conn.



LING'S WHITE WYANDOTTES A SURE THING

Newly Hatched Chicks and older chicks from my Exhibition Yards, from same matings that win for me. Choice Breeders and Exhibition Stock always for sale. Also eggs from my 14 Matings. A limited number of Eggs from my special matings containing

MY 1906 BOSTON WINNERS.

EDWARD E. LING, So. Portland, Me.
Send for catalogue. R. F. D. No. 8.

The Whitcomb Farm, Barred Plymouth Rock Eggs

FROM CHOICE

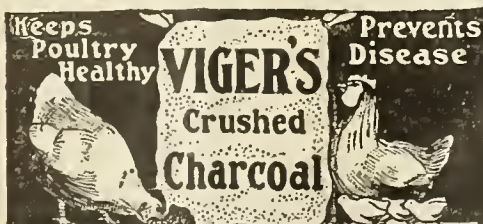
BRADLEY BROS. and D. J. LAMBERT STRAINS,

\$8.00 per 100.

Cash must accompany the order; 75 per cent guaranteed fertility. All infertile eggs returned to me will be replaced FREE to the amount of the guarantee.

WARREN P. FALES, Prop.,

Riverside, R. I.



WATCH YOUR HENS' CROPS.

Most people dig their graves with their teeth. Of the toothless hen we may say with equal truth that its crop is its thermometer of health. If the crop is filled with poisonous substances and the hen suffers from digestive disorders, the hen will become weak, unhealthy and cease to lay regularly. Viger's Crushed Charcoal will absorb all poisons and noxious gases in the crop and put your hens in prime condition. Not a drug, but a simple product of nature, recommended by the highest authorities. Our iron-clad guarantee with every bag; the results we claim for it or money refunded. A trial is all we ask. 3 sizes. Coarse granulated, for mature poultry; fine granulated, for little chicks; pulverized, for mashers. Prices—\$1.00 per 50-pound trial bag. Special prices in quantities. Samples free.

428 20TH STREET,

VIGER'S COAL & WOOD CO.

DETROIT, MICH.

To say, when writing advertisers, "SAW AD. IN FARM-POULTRY," will benefit you—please them—and help us.

Sunday magazine to state editorially his own scientifically based opinion of one of these articles, would he do it, or would there be "business restrictions?" But to be even more definite and to the point, I find the editor of my favorite poultry journal to be a man of specific practical knowledge, and an authority on everything pertaining to our feathered friends. His opinion, stated editorially, is of great value to his many readers. I am about to buy more incubators. Many are in the same position. We know that faulty, worthless machines are advertised just as adroitly as the good ones. Can we expect the editor to tell us the bad points of a machine? It would be so foolish to expect it that we don't even ask it; we "pay our money and take our choice;" we go it blind.

Again, the editor may have come by knowledge that a certain much advertised food is really of about the same food value as wheat bran, and sold at a price which, freight added, would supply the purchaser with nearly twice as much as whole wheat. Are there not business reasons why he should not say so? With poultry remedies the argument is the same.

I believe, Mr. Editor, that you tell the truth and nothing but the truth, but do you tell the whole truth? And these things that you do not tell, wouldn't they be of unlimited value to your patrons? The fact stated editorially that a certain much lauded egg thresher wasn't worth the powder to blow it up, (you probably know of such), and the reasons therefor, the exposure of a remedy, the criticism of a food that has its faults, would certainly be of value to your readers. J. L. G.

Before proceeding to discuss some of the points brought up by Mr. G., let me say that as to whether it is not unusual to put name and address on the reverse of the last page of a manuscript or letter, I cannot say, but it is quite unusual for editors to see them if placed there. Perhaps that is why editors so often remark on the number of unsigned letters sent them. However, that may be, we hope those who have in the past indulged the practice will discontinue it, for we haven't time to search for addresses that are not in plain sight, and there is absolutely no reason for separating the address from the face of a letter or manuscript in this way.

Now in regard to Mr. G.'s ideas of the limitations on editorial usefulness to readers. These views are by no means unusual, and there is no doubt whatever that in many cases in all classes of journalism the financial interests of the paper or some interest of an owner or stockholder does impose certain restrictions on editorial utterance.

This editor will cheerfully admit also, that in some of the matters especially referred to by Mr. G., there are reasons why an editor should not say in the columns of his paper either all he knows or all he thinks; but—these reasons are not of peculiar application to editors. They are primarily independent of business interests of the publication, and they apply generally to all people who express opinions or give advice. Long before I engaged in poultry journalism, at a time when I had no thought of ever engaging in it, I came to the conclusion that it was not good policy to give testimonials, or to especially recommend breeders or stock, or manufacture or brands of goods. I reached this conclusion, because after some years of willing effort to give those who asked the benefit of my experience or judgment in such things the best advice and information I could, I found that to do this was simply to put yourself in the way of being blamed for any and all shortcomings of all other parties concerned—and particularly of the person given the information or advice.

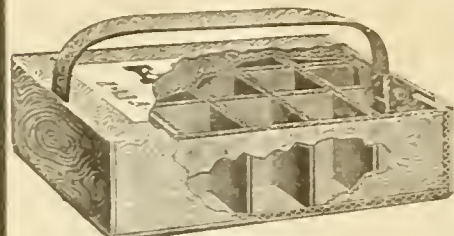
When I was absolutely free to make recommendations as I saw fit, I did on numerous occasions tell people inquiring where I thought best to buy stock or goods of different kinds, and I very soon learned that that was one of the things that it is good not to do. I thought I learned then, what subsequent and wider experience in poultry journalism has confirmed, that most people who want information of this kind are simply looking for someone to take the responsibility of their possible mistakes. An attitude which as a poultryman I took from policy, as an editor I continued partly for policy and partly from necessity.

The first consideration with most editors and publishers in their relations with their advertisers is not to advance the interests of advertisers as opposed to those of readers, but to be fair—to treat all advertisers alike. The fact that a man is an advertiser does not make it necessary that the policy of the paper or utterances of the editor should be adjusted to that advertiser's interests, but the fact that two or more men whose interests are in a measure competitive are advertisers, does make it necessary, and properly so, that the editor should not let any prepossession in favor of the stock or goods of one man lead him either publicly or privately to say things calculated to help that man at the expense of competitors. So that in general the presumption is that as between honorable and reputable advertisers, an editor should not interfere, and this is not a "business office restriction" merely. It is as necessary for the editor's own reputation, for any suggestion of favoritism for a certain advertiser or certain kind of goods is noted by readers who either resent it or count it a weakness; and those who are first to ask for a policy that would furnish occasion for charges of favoritism would be as quick as any to find fault when the policy was put into practice.

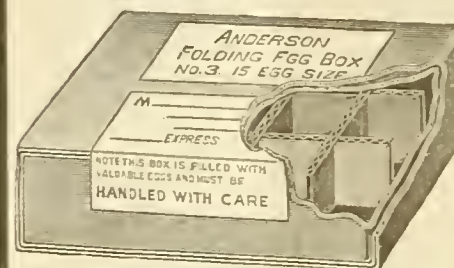
Here is a statement that I believe will hold good of most poultry publishers and editors. I hope of all. If they know that a machine is worthless, or that a manufacturer or breeder is dishonest, or so slack that he will not deal satisfactorily with their readers, they will not carry his advertising.

We do not all look at the points involved in this statement alike. Some papers will take advertising which this paper will not. Perhaps, some will refuse advertising that we take, though that does not often happen. But if we have reason to suppose that a man's machine is worthless, or approaching that quality, we do not take his advertising, and then square ourselves with our readers by advising them not to buy his machine. As a matter of fact, the makers of worthless machines, and of goods that might be classed as fraudulent, steer clear of poultry journals of the better class. An incubator manufacturer told me some months ago that there were 130 or more different makes of incubators in the United States. Hardly a third of that number advertise in poultry papers. There are scores of cheap machines made to sell to people who will buy very cheap incubators, but would not buy at usual prices. These people are not, as a rule, readers of poultry

EGGS • SHIPPED • SAFELY



EYRIE EGG BOX



ANDERSON EGG BOX

THESE Boxes are for sale by all first-class Poultry Supply dealers. Send 20c in stamps for sample of either box.

The J. W. Sefton Mfg. Co.
ANDERSON, INDIANA.

THE Eyrie Egg Box stands pre-eminently as the best shipping box made. It has the greatest strength (will bear the weight of 1,000 lbs.), is the lightest, weighing only two and three-quarter pounds packed and will go anywhere in the United States for 45 cents. It is locked by the insertion of the handle, absolutely preventing the pilfering of the contents or the substitution of other eggs. The handle also prevents putting anything on top of the box and provides a means of handling, which eliminates the liability of rough usage. The corrugated paper provides a dead air space, preventing heat or cold reaching the eggs, and also serves as a cushion. Although we advocate wrapping the eggs in paper, it is not absolutely necessary to do so. Twenty of the Eyrie Boxes can be put up in the same time that it takes to pack a basket. They take only about one quarter of the space. A satisfied customer is your best advertisement. All of your customers will be satisfied if you use the Eyrie Box.

Price of Eyrie Shipping Boxes.

SIZE	PER DOZ.	SIZE	PER DOZ.
1 doz. 1 sitting	\$1.25	1 doz. 2 sitting	\$1.90
10 " 1 "	1.20	10 " 2 "	1.80
25 " 1 "	1.15	25 " 2 "	1.75
50 " 1 "	1.10	50 " 2 "	1.70

For the class of trade who desire a cheaper box, we have provided the Anderson Egg Box, which has many of the good points of the Eyrie. It lacks the handle, however, folds flat for shipment, and is sealed by means of a label which we furnish, the label answering for the address and seal.

Price of The Anderson Egg Box.

1 sitting		No. 3	\$1.00 per doz.
2 "		No. 4	1.50 "
50 egg size		No. 5	2.50 "

papers. People who read poultry papers want machines that will give good service.

But suppose there are thirty-five or forty incubators advertised in a poultry paper. Is it likely that the editor will know all the weak points and all the strong points of each? It is practically impossible that he should have an expert acquaintance with more than a very few of them.

I have never had occasion to feel that I was far below the average poultry editor in acquaintance with the things readers of poultry papers want to know, but my highest possible rating of my acquirements still leaves me away below Mr. G.'s estimate of the editor's knowledge. We will say that I, perhaps, know all the excellencies and faults of a few incubators, a few brooders, a few brands of food stuffs, a few stocks of fowls. I am supposed to treat all advertisers alike. Would it be either politic or right for me to tell the faults of the stock, etc., that I knew, or thought I knew, and leave the faults of all other stock out of the question; to tell the whole truth about the person whose misfortune it was to have me know his goods, and

make it an advantage for an advertiser for me to know nothing of what he has to sell?

A good many years ago Theodore Sternberg, in describing to me a bird he thought would suit me, said something like this: "I always want to tell a customer the weak as well as the strong points in birds I price him, but I find that when I do this the customer will almost always place his order with the competitor who dwells only on the good points of his stock."

Suppose Mr. G. were advertising White Rocks in this paper, and I happened to know his stock very well. Suppose another breeder of White Rocks whose stock is known to Mr. G. but not to me. Suppose Mr. G.'s is much the better stock, but the other man can write just as attractive an advertisement. Which would Mr. G. have me do, tell what I knew of his stock, and leave his competitor the advantage of not knowing me, or refuse to receive advertisements unless we can tell readers all about stock of advertisers? I think if Mr. G. will ruminate on the matter awhile he will come to the conclusion that an editor who would attempt to tell all he knows would




MODEL

MFD. BY *Chas. A. Cyphers* TRADE MARK

Let Me Hand You My Latest Book on Poultry Culture

ABSOLUTELY FREE

I want to send you a copy of this book free. It is a gold mine of practical information for the poultry-raiser. I call it "An Easy Lesson in Poultry Culture," because the lessons it teaches are easy to learn and easy to apply. My object in publishing this book is to point out how dollars in place of cents can be made in producing poultry and eggs for market purposes. It is stated so plainly that the novice can follow the directions and make a success of the poultry business. I especially commend the chapter, "The Back-Lotter" to the city dweller who wants to "try-out" this business before going into it on a large scale. And then I have another book—a good companion for this one—"Poultry Feeding for Profit" that you should have also. It is full of feeding facts that I know, from actual experience, will be valuable to every chicken raiser. It gives feeding methods and information that will be helpful every day, for every fowl on your place—from the little chick "just out" to the old hen you are fattening for market. There is lots of money in the poultry business if you know how to handle chickens right. These two books will give you all the information you'll need—information you can put into practice. You cannot get this information anywhere else. Write today, I will send both books free, and also send my catalog on Model Incubators and Brooders the latest and most successful hatching and rearing machines on the market.

CHAS. A. CYPHERS, 315 HENRY ST., BUFFALO, N. Y.

Do not confuse me with any Company, and be sure to include my street address.

To say, when writing advertisers, "SAW AD. IN FARM-POULTRY," will benefit you—please them—and help us.

not last long. The first function of an editor is to distinguish between what to print and what not to print — of what he knows, and of what others know as well.

An editor also has to consider the weaknesses and limitations of human nature as manifested in novices in poultry culture, and when you take up this subject you get on ground where the discussion runs into all kinds of philosophy. So we need not enter into the discussion here. I will merely say for Mr. G.'s benefit that there are many articles and some methods that have slight intrinsic value in themselves that are worth all they are sold for to many poultrymen, because in using them the fact that they are more expensive, cost more than other goods or methods that would answer just as well, makes them do the things connected with these matters carefully when otherwise they would do them slackly. A great many people need to feel that any negligence means waste or loss of expensive material or they will not use their common materials right. So in every matter of that kind, while giving my own method or opinion when simple and inexpensive, I do not feel that it is incumbent on me to condemn the more expensive goods or ways. I simply say that if they suit a man better, and if by using them he gets better results, then they are for him cheaper and better, and if Mr. G. will watch the columns of the paper, comparing editorial and advertisers' statements, I think he will find that in many instances the editor expresses views flatly opposed to those of an advertiser or a whole class of advertisers. Occasionally comes along an advertiser who takes exception to this, saying that if we take his advertising we should refrain from expressing opinions not in accordance with his, but I cannot recall an instance in the nearly seven years that I have been in editorial charge of this paper where such an advertiser continued of this opinion when shown the editor's side of the question. We have one advertiser who

a few months ago objected to a statement I had made regarding the class of goods he advertised, saying that if I took that position he might as well withdraw his advertising. I wrote him that my statement was based on a positive knowledge of the facts; that personally I believed his goods were not an essential in poultry keeping; that I had no doubt that his sales to readers of this paper would be less because I had made the statement in question than if I had taken a different position; but, that while I felt flattered that he should form so high an opinion of the weight of my views with readers of the paper, I knew that a great many readers did not take all I said as law and gospel, and that I had no doubt that there were enough of these to keep up his sales — unless he stopped advertising. Mr. G. can find, if he makes comparisons, a great many differences between the views of the editor and the views of advertisers and contributors, and if he were interested in advertising some things he would soon find that editorial views imposed some restrictions on the acceptance of advertising, for whenever an advertisement comes squarely in conflict with the established policy of the paper or the teachings of the editor, it is either refused or the advertiser given to understand that he takes the risks — that he advertises with us for the sake of the trade which does not implicitly follow the teachings of the paper, but holds to its own ideas or forms its own judgment. There are all degrees of variation from editorial opinions, and to bar all advertisers not in full agreement with editorial ideas would be as absurd as to try to make editorial utterances square with every statement of every advertiser.

Carried to its logical conclusion, Mr. G.'s conception of a full blown editor would make a poultry journal impossible. It would narrow everything down to the personal knowledge, experience, and judgment of the editor, who by trying to be the whole thing would soon eliminate his journal from consideration.

An Active State Poultry Association.

WITHIN a year past a number of poultrymen in Connecticut have been energetically working for a State Poultry Association. From what we have heard of it from time to time, we judge that the work done has had a highly beneficial effect in stimulating interest in poultry culture already, and that even had no organization been effected, the results brought about in this way would have amply justified the effort. But the preliminary work was thoroughly effective for the purpose for which it was undertaken, and a strong organization was effected. The movement is one that might well be followed by other states. Herewith is given the

Constitution of the Connecticut Poultry Association.

Adopted Feb. 1, 1906, at Hartford, Conn.

ARTICLE I.—NAME.

Section 1.—The name of this organization shall be, "The Connecticut Poultry Association."

ARTICLE II.—OBJECT.

Section 1.—The object of this association is to encourage and promote the interests of the poultry industry in Connecticut in all its branches; to disseminate information for the benefit of poultry breeders; to promote good fellowship among the poultrymen of Connecticut, and to serve their interests in any way in which they may be helped by cooperative efforts; and generally to do all things, and to exercise all the powers necessary to improve, dignify, and advance the breeding of both utility and fancy poultry among the citizens of this state.

ARTICLE III.—MEMBERSHIP.

Section 1.—The members of this association shall consist of such persons as are interested in the breeding of poultry, who, upon recommendation of the executive committee, shall be elected by ballot or acclamation at any regular or special meeting of the association.

Section 2.—No member shall be expelled from this association except upon the recommendation of the executive committee, whose duty it shall be to investigate charges preferred against any member, and if, after an impartial

trial, in which the accused shall have an opportunity to be present and heard, either in person or by attorney, the executive committee shall find the offender guilty of conduct unbecoming a member, they shall make their report in writing to the association, and said report may be acted upon at any regular or special meeting, and if a majority of the members present, and voting at any such meeting, shall vote to expel said offending member, the same shall thereupon be expelled, and not entitled to a subsequent membership in the association, until, in the opinion of the executive committee, the cause of expulsion no longer exists.

ARTICLE IV.—DUES.

Section 1.—The annual dues of this association shall be fifty cents, and the same shall be due and payable upon the first day of October of each and every year.

Section 2.—All members whose dues have not been paid within six months from the date upon which they become payable, shall be considered to have forfeited their membership, and the secretary shall be empowered to erase their names from the membership roll.

Section 3.—No person shall be eligible to membership in this association whose annual dues of fifty cents have not been paid on or before the date of the election.

ARTICLE V.—OFFICERS.

Section 1.—The officers of this association shall be a president, one vice-president from each county, secretary, treasurer, two auditors, an attorney, and an executive committee of eleven, of which the president and secretary shall be members ex-officio. All of the



Do You Want the BEST Roof
even if you have to pay a little more for it, or are you looking for the kind that "will do, I guess," and trust to luck and good weather to keep your fowls in condition. We know our business and say without fear of successful contradiction that the **best roofing** is

Rex Flintkote Roofing
It is just as good for siding as it is for roofing

It is absolutely wind, storm, snow and rain-proof, besides being spark-proof. No other roofing is quite as good as the Rex Flintkote, because **no other is made the same way or of the same materials.** Many prepared roofs contain tar and paper which rot and dry out, but the Rex Flintkote foundation is long fibre wool-felt of the highest quality. This insures long life. Our resisting compounds will not dry out and our flint coating makes rot impossible.

SAMPLES SENT YOU FREE
We will gladly send you samples for testing. Also let us send you our book on roofing. It contains many valuable pointers to every poultry owner. Be sure you get the genuine Rex Flintkote—because it is imitated. Every roll of the genuine is trade-marked "Look for the Boy."

J. A. & W. BIRD & COMPANY
53 India St., Boston, Mass.
Agents Everywhere.



JOSEPH BRECK & SONS, Corp.
51 North Market St., Boston, Mass.

NEW ENGLAND AGENTS FOR
Genuine Prairie State Incubators and Brooders.
RUBEROID ROOFING.

OUR SPECIALTIES:
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above officers shall be elected by ballot at the
annual meeting.

Section 2.—The executive committee shall
consist of one member from each of the eight
counties in the state, and three elected at
large; but no county shall have more than one
member at large.

Section 3.—All officers shall hold their respec-
tive offices for one year, or until their suc-
cessors are elected and duly qualified.

Section 4.—In the event of a vacancy or
vacancies occurring in any office during the
interim, the president with the approval of
the executive committee shall have power to
fill the same, but not beyond the term for
which said officer was elected.

ARTICLE VI.—DUTIES OF OFFICERS.

DUTIES OF PRESIDENT.

Section 1.—The president shall preside at all
meetings of the association and of the execu-
tive committee, and shall perform the usual
duties of his office. He shall appoint all com-
mittees not otherwise provided for, and shall
sign all checks, drafts, or orders on the funds
of the association.

DUTIES OF VICE-PRESIDENTS.

Section 2.—In case of the absence of the
president, or his inability to act, the vice-
presidents in order of seniority of election,
shall perform the duties of the president.

DUTIES OF SECRETARY.

Section 3.—The secretary shall conduct the
correspondence of the association; shall have
charge of the books and papers pertaining to
his office; shall keep a faithful record of the
proceedings of the association and of the
executive committee, and shall countersign all
checks, drafts, and orders on the funds of the
association.

DUTIES OF THE TREASURER.

Section 4.—The treasurer shall have charge
of all funds of the association and shall dis-
burse the same upon order of the president
countersigned by the secretary. He shall
make a report of the receipts and expenditures
of the association at each annual meeting, and
at such other times as the executive com-

mittee may direct. He shall furnish such
bond as the executive committee may require,
which bond shall be lodged with the president.

DUTIES OF AUDITORS.

Section 5.—It shall be the duty of the audi-
tors to audit the books and accounts of the
association, annually before the regular meet-
ing, and make report at that meeting. They
shall also audit the books and accounts at such
other times as the executive committee may
direct.

EXECUTIVE COMMITTEE.

Section 6.—The executive committee shall
transact the business of the association, in the
intervals between its meetings. It shall have
authority to make contracts in the name of
the association, but shall make no contract or
contracts calling for an expenditure in excess
of cash in the treasury unless specially author-
ized to do so by vote of the association. It
shall have power to fill all vacancies occurring
in the executive committee. It shall recom-
mend persons for membership in the associa-
tion. It shall entertain and hear all charges
preferred against members for conduct unbecom-
ing a member.

Section 7.—A quorum of the executive com-
mittee shall consist of five members present
and voting, of which the president and secre-
tary as members ex-officio shall not be
included.

ARTICLE VII.—MEETINGS.

Section 1.—The annual meeting of this asso-
ciation shall be held in January or February,
at Hartford, at such time and place as the
executive committee may designate in a writ-
ten notice mailed to each member of the asso-
ciation at least ten days prior to the date of
the meeting.

Section 2.—Special meetings may be called
by the executive committee in its discretion,
at such time and place as they may designate
by giving ten days notice in writing to each
member. No business shall be considered at
such special meeting other than that stated in
the call for the same or incidental thereto.

ARTICLE VIII.—QUORUM.

Section 1.—Fifteen members, present and
voting, shall constitute a quorum for the
transaction of business.

ARTICLE IX.—AMENDMENTS.

Section 1.—This constitution shall not be
altered or amended except by a two-thirds
vote of the members present and voting at an
annual meeting or at a special meeting called
for that purpose, notice of such alteration
or amendment and the nature of the same
having been included in the call for such
meeting.

The officers of the association for the year
are:

President—C. K. Graham, of Storrs. Vice-
presidents—G. L. Fokett, of Winsted, from
Litchfield Co.; C. K. Bailey, of Bethel, from
Fairfield Co.; Joshua Shute, of Meriden, from
New Haven Co.; Nath. Jones, of So. Windsor,
from Hartford Co.; F. H. Smith, of Middle-
town, from Middlesex Co.; G. G. Tillinghast,
of Vernon, from Tolland Co.; C. R. Strong,
of Lebanon, from New London Co.; A. T.
Grosvenor, of Abington, from Windham Co.

Secretary—H. L. Hamilton, of Ellington.

Treasurer—C. H. Brundage, of Danbury.

Attorney—Geo. V. Smith, of New Haven.

Auditors—F. O. Groesbeck, of Hartford; R.
M. Clark, of Stamford.

Executive committee—J. H. Putnam, of
Litchfield, from Litchfield Co.; A. B. Brun-
dage, of Danbury, from Fairfield Co.; Geo.
V. Smith, New Haven, from New Haven Co.;
W. H. Card, of Bristol, from Hartford Co.;
H. W. Strong, East Hampton, from Middlesex
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land Co.; W. O. Rogers, of Norwich, from
New London Co.; James Greig, of Rawson,
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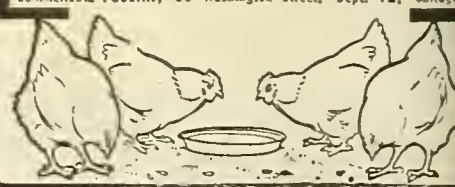
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